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NUCLEIC ACID AND AMINO ACID SEQUENCES INVOLVED IN PAIN

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PRIORITY

This application is a Continuation-in-Part of U.S. Application Serial No. 10/219,051, filed August 14, 2002, which claims the benefit of U.S Provisional Application No. 60/312,147, filed August 14, 2001; U.S. Provisional Application No. 60/346,382, filed November 1, 2001; and U.S. Provisional Application No. 60/333,347, filed November 26, 2001. The entire 10 teachings of the above applications are incorporated herein by reference.

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SEQUENCE LISTING

The present application includes a Sequence Listing submitted herewith on three identical CD-ROM disks pursuant to 37 C.F.R. §1.53(e). The information on each CD-ROM is identical. Submitted are the Computer Readable Copy (disk 1) of the sequence listing, and Copy 15 1 (disk 2) and Copy 2 (disk 3). The following information is identical for each CD-ROM submitted: Machine Format: IBM-PC; Operating System: MS-Windows; Files Contained: Formal_sequence_listing2ndappl.txt; Size: 7.56MB; Date of Creation: December 19, 2003. The information on each CD-ROM is incorporated herein by reference in its entirety.

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BACKGROUND OF THE INVENTION

20 Pain is a state-dependent sensory experience which can be represented by a constellation of distinct types of pain including chronic pain, neuropathic pain, inflammatory pain, and physiological pain. Current therapy is, however, either relatively ineffective or accompanies by substantial side effects (Sindrup and Jensen, 1999 *Pain* 83: 389). All of the primary forms of pain therapy have been discovered wither empirically through folk medicine, or serendipitously. 25 These forms of treatment include opiates, non-steroidal anti-inflammatory drugs (NSAIDS), local anesthetics, anticonvulsants, and tricyclic antidepressants (TCAs).

Recently there has been a great deal of progress in understanding the mechanisms that produce pain (McCleskey and Gold, 1999, *Annu. Rev. Physiol.* 61: 835; Woolf and Salter, 2000, *Science* 288: 1765; Mogil et al., 2000, *Annu. Rev. Neurosci.* 23: 777). It is increasingly clear that multiple mechanisms operating at different sites, and with different temporal profiles, are involved. In consequence, there is a need in the art for a shift in pain management from treatment essentially by trial and error to a strategy that attempts to identify and treat the mechanisms present in a given patient (Woolf and Mannion, 1999, *Lancet* 353: 1959; Woolf and Decosterd, 1999, *Pain* 82: 1). Accordingly, there is a need in the art for techniques which enable the identification of the genes responsible for these mechanisms.

The present invention, in an effort to meet such a need, provides a plurality of genes which are differentially expressed in animals which have been subjected to pain. The present invention provides advantages over existing measurements of differential expression in that the invention provides lower thresholds of differential expression. The present invention thus encompasses a much larger number of genes which show differential expression, and therefore provides a much improved method for identifying a larger number of genes whose expression may be directly related to the mechanisms which underlie pain.

SUMMARY OF THE INVENTION

The present invention provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the polynucleotides of Table 11.

The present invention also provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the polynucleotides of Table 10.

The invention also provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 11 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: amino acid sequences which are homologous to any of the amino acid sequences specified in Table 11 in the columns designated

"rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 11 in the column designated "%homology" and which encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 11 in the column designated "identifier"; (c) the amino acid specified in Table 11 in the columns
5 designated "rat protein" and "human protein"; (d) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 11 in the column designated "identifier"; (e) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code
10 and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 11 in the column designated "identifier"; and (f) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 11 in the column designated "identifier".

15 The invention further provides polypeptide sequences, indicated by Accession no. in Table 11, which are encoded by the polynucleotide sequences shown in Table 11 which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

20 The invention further provides polypeptide sequences, indicated by Accession no. in Table 11, which are encoded by the polynucleotide sequences shown in Table 11 which are differentially expressed by at least 1.4 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

25 The invention further provides human polypeptide sequences, indicated by Accession no. in Table 11, which are encoded by the human polynucleotide sequences shown in Table 11 which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides polypeptide sequences, indicated by Accession no. in Table 11, which are encoded by the polynucleotide sequences shown in Table 11 which are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain.

5 The invention further provides human polypeptide sequences, indicated by Accession no. in Table 11 , which are encoded by the human polynucleotide sequences shown in Table 11 which are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain.

10 The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 11 which are differentially expressed by greater than 1.4 fold in an animal subjected to pain relative to an animal not subjected to pain and polypeptide sequences encoded thereby. Preferably, the animal is a human.

15 The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 11, which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a p-value of less than 0.05.

20 The invention further provides polypeptide sequences, indicated by Accession no. in Table 10, which are encoded by the polynucleotide sequences shown in Table 10 which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

25 The invention further provides polypeptide sequences, indicated by Accession no. in Table 10, which are encoded by the polynucleotide sequences shown in Table 10 which are differentially expressed by at least 1.4 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides human polypeptide sequences, indicated by Accession no. in Table 10, which are encoded by the human polynucleotide sequences shown in Table 10 which are differentially expressed by at least 1.2 fold across at least three replicate screens of

neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides polypeptide sequences, indicated by Accession no. in Table 10, which are encoded by the polynucleotide sequences shown in Table 10 which are 5 differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain.

The invention further provides human polypeptide sequences, indicated by Accession no. in Table 10 , which are encoded by the human polynucleotide sequences shown in Table 10 which are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an 10 animal not subjected to the same pain.

The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 10 which are differentially expressed by greater than 1.4 fold in an animal subjected to pain relative to an animal not subjected to pain and polypeptide sequences encoded thereby. Preferably, the animal is a human.

15 The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 10, which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a p-value of less than 0.05.

The present invention provides a composition comprising polynucleotides which are 20 differentially expressed by at least +/- 1.2 fold in at least three replicate assays of nerve tissue obtained from a nerve injury or inflammation pain model, with a p-value of less than 0.05, wherein each of the polynucleotides is selected from the polynucleotides listed in Tables 10, and preferably selected from the polynucleotides listed in Table 11.

In one embodiment, each of the two or more isolated polynucleotides is differentially 25 expressed by at least 1.4 fold in the nerve tissue of an animal subjected to pain relative to the animal not subjected to the pain, and alternatively, are differentially expressed by at least 1.4 fold across three replicate assays of expression in nerve tissue obtained from a nerve injury pain model with a p-value of less than 0.05.

In an alternate embodiment, each of the two or more isolated polynucleotides is differentially expressed by at least 2 fold in the neurons of an animal subjected to pain relative to the animal not subjected to the pain.

In one embodiment, the nerve tissue is the sensory neurons of the dorsal root ganglion, or
5 dorsal horn of the spinal cord.

The present invention provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the polynucleotides of Tables 1 or 2 or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of said two or more isolated polynucleotides is unique to Table 2, or a
10 sequence which hybridizes under high stringency conditions thereto.

The invention also provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the group consisting of: a polynucleotide comprising any of the polynucleotides specified in Table 1 or 2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; a polynucleotide encoding an amino acid sequence selected from the group consisting of: amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and
15 encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the
20 column designated "identifier"; a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and
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encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier".

The invention further provides polypeptide sequences, indicated by Accession no. in Table 2, which are encoded by the polynucleotide sequences shown in Tables 2 which are 5 differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides human polypeptide sequences, indicated by Accession no. in Table 2, which are encoded by the human polynucleotide sequences shown in Tables 2 which 10 are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides polypeptide sequences, indicated by Accession no. in Tables 2 or 3, which are encoded by the polynucleotide sequences shown in Tables 2 or 3 which 15 are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain.

The invention further provides human polypeptide sequences, indicated by Accession no. in Tables 2 or 3, which are encoded by the human polynucleotide sequences shown in Tables 2 or 3 which are differentially expressed by at least 1.4 fold in an animal subjected to pain relative 20 to an animal not subjected to the same pain.

The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 2 or 3 which are differentially expressed by greater than 1.4 fold in an animal subjected to pain relative to an animal not subjected to pain and polypeptide sequences encoded thereby. Preferably, the animal is a human.

25 The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 2, which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a p-value of less than 0.05.

Table 1 of the present invention includes polynucleotide sequences which have been examined using the methods described herein, and have been previously individually described in the art as being regulated in animal models of pain. Not all of the polynucleotides shown in Table 1, however, are “differentially expressed” according to the present invention. The 5 invention is based, in part, upon the discovery that certain polynucleotides shown in Table 1 are differentially expressed in nerve tissue. Those polynucleotides indicated as having a Fold change of +/- 1.4 or greater are differentially expressed.

Table 2 and 3 of the present invention include polynucleotide sequences which have not been previously described in the art as being regulated in animal pain models and which have 10 been analyzed in at least three replicate screens of neuronal tissue from animals subjected to pain, and have attained a statistical significance of $p < 0.05$. Table 2 and 3, however, also include one or more of the sequence indicated in Table 1. Accordingly, the phrase “unique to Table x” refers to a sequence which is indicated in Table x, and is not indicated in Table 1. Therefore, the invention also is based, in part, upon the discovery that polynucleotides (listed in Tables 2 and 3) 15 are differentially expressed in nerve tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain. This discovery is demonstrated in nerve injury models of pain: e.g., spared nerve injury, axotomy, chronic constriction, and nerve ligation, and inflammation pain models. Each of tables 2 and 3 represents a polynucleotide sequence which is identified herein as being differentially expressed in an animal subjected to pain by at least 1.4 fold relative to the expression of the same sequence in an animal which has not been subjected to 20 the same pain. Table 2 represents sequences which have been analyzed in at least three replicate assays of differential expression and are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to pain, and have a statistical significance of $P < 0.05$. Thus, each of the polynucleotides shown in Tables 2 or 3 is differentially expressed in 25 an animal subjected to pain according to the present invention.

Table 4 and 5 of the present invention include polynucleotide sequences which have not been previously described in the art as being regulated in an animal pain model, and which have been identified herein as being differentially expressed in an animal subjected to inflammatory pain by at least 1.4 fold. All of the sequences in Tables 4 and 5 are identified herein as being 30 differentially expressed, and a number of the polynucleotides indicated in Tables 4 and 5 have

also been included in Table 2, as having attained a statistical significance of p<0.05 in three replicate analyses of gene expression.

Accordingly, the present invention provides a composition comprising polynucleotides which are differentially expressed by at least +/- 1.2 fold in at least three replicate assays of nerve tissue
5 obtained from a nerve injury or inflammation pain model, with a p-value of less than 0.05, wherein each of the polynucleotides is selected from the polynucleotides listed in Tables 1 or 2, and wherein at least one of the polynucleotides is selected from the polynucleotides listed in Table 2.

In one embodiment, each of the two or more isolated polynucleotides is differentially
10 expressed by at least 1.4 fold in the nerve tissue of an animal subjected to pain relative to the animal not subjected to the pain, and alternatively, are differentially expressed by at least 1.4 fold across three replicate assays of expression in nerve tissue obtained from a nerve injury pain model with a p-value of less than 0.05.

In an alternate embodiment, each of the two or more isolated polynucleotides is
15 differentially expressed by at least 2 fold in the neurons of an animal subjected to pain relative to the animal not subjected to the pain.

In one embodiment, the nerve tissue is the sensory neurons of the dorsal root ganglion, or dorsal horn of the spinal cord.

The invention also provides a plurality of vectors each comprising an isolated
20 polynucleotide, wherein each of the isolated polynucleotides is selected from Table 1, 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto.

The invention also provides a plurality of vectors each comprising an isolated
25 polynucleotide, wherein each of the isolated polynucleotides is selected from Table 10 and/or 11, or a sequence which hybridizes under high stringency conditions thereto.

The invention further provides a plurality of viral vectors each comprising an isolated polynucleotide, wherein each of the isolated polynucleotides is selected from Table 1, 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5 or a sequence which

5 hybridizes under high stringency conditions thereto.

The invention further provides a plurality of viral vectors each comprising an isolated polynucleotide, wherein each of the isolated polynucleotides is selected from Table 10 and/or 11, or a sequence which hybridizes under high stringency conditions thereto.

The invention further provides a plurality of vectors each comprising an isolated polynucleotide, wherein each of said two or more isolated polynucleotides is selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c)

10 due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

15 (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier".

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The invention further provides a plurality of vectors each comprising an isolated polynucleotide, wherein each of said two or more isolated polynucleotides is selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide 5 encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 10 and/or 11 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 or 11 in the column designated "identifier"; (ii) the amino acid specified in Table 10 or 11 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 or 11 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or 15 which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 or 11 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the 20 respective sequence in Table 10 or 11 in the column designated "identifier".

In one embodiment, the vectors described above are contained within a host cell.

The invention further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of a nucleic acid sample comprising one or more nucleic acid molecules of known identity; measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity for each of the replicates, wherein a 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the at least three replicates, of the nucleic acid sample to the one or 25 more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an

animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The present invention also provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to a nucleic acid sample comprising one or more nucleic acid molecules of known identity; measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The invention further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of an array comprising a solid substrate and one or more nucleic acid molecules of known identity; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; and measuring the hybridization of the nucleic acid sample to the at least three replicates of the array, wherein a 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the at least three replicates, of the nucleic acid sample to the one or more nucleic acid molecules of known identity comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The invention still further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from an animal which has been subjected to pain to an array comprising a solid substrate and a plurality of nucleic acid members; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; and measuring the hybridization of the nucleic acid sample to the array, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising

the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

In one embodiment, any of the preceding methods for identifying a nucleotide sequence
5 which is differentially regulated in an animal subjected to pain may further comprise the step of verifying the differential expression of the nucleotide sequence by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

The invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid
10 sample corresponding to RNA obtained from an animal which has been subjected to pain to an array comprising a solid substrate and a plurality of nucleic acid members; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; measuring the hybridization of the nucleic acid sample to the array, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to
15 the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain; and verifying the differential expression of the nucleotide sequence by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

20 In one embodiment, a 1.4 fold change in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence following pain.

25 In a further embodiment, a 2 fold change in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence following pain.

In one embodiment, the nucleic acid sample is labeled with a detectable label prior to the hybridization to the array.

In a further embodiment, the above methods for identifying a nucleic acid sequence which is differentially regulated in an animal subjected to pain further comprises the step of
5 isolating the nucleic acid sample from the animal.

In one embodiment, nucleic acid sample is cRNA.

The present invention also provides an array comprising: a plurality of polynucleotide members, wherein each of the polynucleotide members is selected from Table 1, 2, 3, 4, or 5 and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5; and a solid
10 substrate, wherein each polynucleotide member has a unique position on the array and is stably associated with the solid substrate. Such an array will be referred to herein as a “pain specific array”.

The invention still further provides an array comprising: a plurality of polynucleotide members, wherein each of the polynucleotide members is selected from Table 1, 2, 3, 4, or 5,
15 and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5 and wherein the plurality of polynucleotide members are obtained from neuronal tissue obtained from at least two different species of animal; and a solid substrate, wherein each polynucleotide member obtained from each of the two different species has a unique position on the array and is stably associated with the solid substrate. Such an array will be referred to herein as a “pain
20 specific array”.

The invention also comprises an array comprising: (a) a plurality of polynucleotide members, wherein each of said plurality of polynucleotides is selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated “rat gene” and “human gene”; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as

specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and (b) a solid substrate, wherein each polynucleotide member has a unique position on said array and is stably associated with said solid substrate.

The present invention also provides an array comprising: a plurality of polynucleotide members, wherein each of the polynucleotide members is selected from Table 10 and/or 11; and a solid substrate, wherein each polynucleotide member has a unique position on the array and is stably associated with the solid substrate. Such an array will be referred to herein as a "pain specific array".

The invention still further provides an array comprising: a plurality of polynucleotide members, wherein each of the polynucleotide members is selected from Table 10 and/or 11, wherein the plurality of polynucleotide members are obtained from neuronal tissue obtained from at least two different species of animal; and a solid substrate, wherein each polynucleotide member obtained from each of the two different species has a unique position on the array and is stably associated with the solid substrate. Such an array will be referred to herein as a "pain specific array".

The invention also comprises an array comprising: (a) a plurality of polynucleotide members, wherein each of said plurality of polynucleotides is selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 10 and/or 11 in

the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 10 and/or 11 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (2) the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; and (b) a solid substrate, wherein each polynucleotide member has a unique position on said array and is stably associated with said solid substrate.

20 In one embodiment, the plurality of polynucleotide members is differentially expressed by at least 1.2 fold across at least three replicate assays of expression in neuronal tissue of an animal subjected to pain with a p-value of less than 0.05 relative to an animal not subjected to the pain.

25 In one embodiment, the plurality of polynucleotide members is differentially expressed by at least 1.4 fold in the neurons of the animal subjected to pain relative to an animal not subjected to the pain.

In a further embodiment, the array comprises from 10 to 20,000 polynucleotide members.

In one embodiment, the array further comprises negative and positive control sequences and quality control sequences selected from the group consisting of cDNA sequences encoded by

housekeeping genes, plant gene sequences, bacterial sequences, PCR products and vector sequences.

The invention further provides a method of identifying an agent that increases or decreases the expression of a polynucleotide sequence that is differentially expressed in neuronal tissue of a first animal which is subjected to pain comprising: administering the agent to the first animal; hybridizing nucleic acid isolated from one or more sensory neurons of the first and a second animal to a pain specific array; and measuring the hybridization of the nucleic acid isolated from the neuronal tissue of the first and second animal to the array; wherein an increase in hybridization of the nucleic acid from the first animal to one or more nucleic acid members of the array relative to hybridization of the nucleic acid from a second animal which is subjected to pain but to which is not administered the agent to one or more nucleic acid members of the array identifies the agent as increasing the expression of the polynucleotide sequence, and wherein a decrease in hybridization of the nucleic acid from the first animal to one or more nucleic acid members of the array relative to the hybridization of the nucleic acid from second animal to one or more nucleic acid members of the array identifies the agent as decreasing the expression of the polynucleotide sequence.

In one embodiment, the preceding method further comprises the step of verifying the increase or decrease in the hybridization by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

20 In one embodiment, the nucleic acid sample isolated from the first and second animal is labeled with a detectable label prior to the hybridization to the array.

In a further embodiment, the nucleic acid sample isolated from the first animal is labeled with a different detectable label than the nucleic acid sample isolated from the second animal.

25 The invention also provides a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, comprising: (a) providing a cell comprising and capable of expressing one or more of the polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene",

and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) contacting said cell with a candidate compound; and (c) measuring the expression of said one or more of the polynucleotide specified supra, wherein if the expression of said differentially expressed polynucleotide sequence is increased in an animal which is subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is decreased by at least 10% in the presence of said candidate modulator, and wherein if the expression of said differentially expressed polynucleotide sequence is decreased in an animal subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is increased by at least 10% in the presence of said candidate modulator.

The invention also provides a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, comprising: (a) providing a cell comprising and capable of expressing one or more of the polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the

polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein" by at least the 5 homology as specified for the respective sequence in Table 10 and/or 11 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (2) the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a 10 polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 15 10 and/or 11 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (b) contacting said cell with a candidate compound; and (c) measuring the expression of said one or more of the polynucleotide 20 specified supra, wherein if the expression of said differentially expressed polynucleotide sequence is increased in an animal which is subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is decreased by at least 10% in the presence of said candidate modulator, and wherein if the expression of said differentially expressed polynucleotide sequence is decreased in 25 an animal subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is increased by at least 10% in the presence of said candidate modulator.

The invention also provides a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected 30 to pain, comprising: providing a cell comprising and capable of expressing one or more of the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5; contacting the cell with a candidate

compound; and measuring the expression of the one or more of the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5, wherein an increase or decrease in the expression of the one or more of the polynucleotide sequences shown in Table 1, 2, 3, 4, or 5 of at least 10% is indicative of regulation of the differentially expressed polynucleotide sequence.

5 The invention still further provides a method for identifying a compound which regulates the activity of one or more of the polypeptides shown in Table 1, 2, 3, 4, or 5, or the activity of a polypeptide encoded by a polynucleotide sequence indicated in Table 1, 2, 3, 4, or 5 comprising: providing a cell comprising the one or more polypeptides; contacting the cell with a candidate compound; and measuring the activity of the one or more polypeptides, wherein an increase or
10 decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the candidate compound, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

15 The invention also provides a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, comprising: providing a cell comprising and capable of expressing one or more of the polynucleotide sequences shown in Tables 10 and/or 11; contacting the cell with a candidate compound; and measuring the expression of the one or more of the polynucleotide sequences shown in Tables 10 and/or 11, wherein an increase or decrease in the expression of the one or
20 more of the polynucleotide sequences shown in Table 10 and/or 11 of at least 10% is indicative of regulation of the differentially expressed polynucleotide sequence.

25 The invention still further provides a method for identifying a compound which regulates the activity of one or more of the polypeptides shown in Table 10 and/or 11, or the activity of a polypeptide encoded by a polynucleotide sequence indicated in Table 10 and/or 11 comprising: providing a cell comprising the one or more polypeptides; contacting the cell with a candidate compound; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the candidate

compound, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

In one embodiment, the candidate compound is selected from the group consisting of small molecule, protein, RNAi, and antisense.

5 In a further embodiment, the candidate compound is an antibody which binds to the polypeptide.

The invention also provides a method for producing a pharmaceutical formulation comprising: providing a cell comprising the one or more polypeptides; selecting a compound which regulates the activity of the one or more polypeptides; and mixing the compound with a
10 carrier.

In one embodiment, the step of selecting comprises the steps of contacting the cell with a candidate compound; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the
15 candidate compound, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

The invention also provides a method for producing a pharmaceutical formulation comprising: (a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the
20 polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human
25 protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) selecting a compound which regulates the activity of said one or more polypeptides; and (c) mixing said compound with a carrier.

The invention also provides a method for producing a pharmaceutical formulation comprising: (a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 10 and/or 11 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (2) the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence

in Table 10 and/or 11 in the column designated "identifier"; (b) selecting a compound which regulates the activity of said one or more polypeptides; and (c) mixing said compound with a carrier.

In one embodiment, the step of selecting comprises the steps of contacting said cell with
5 a candidate compound; and measuring the activity of said one or more polypeptides, wherein an increase or decrease of the activity of said one or more polypeptides of at least 10% relative to the activity of said one or more polypeptides in said cell, wherein the cell is not contacted with the candidate compound, identifies said candidate compound as a compound which regulates the activity of said one or more polypeptides

10 The invention also provides a method for identifying a compound which regulates the activity, in an animal, of one or more of the polypeptides shown in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more polynucleotide sequence indicated in Table 1, 2, 3, 4, or 5 comprising: administering a candidate compound to an animal comprising the one or more polypeptides; and measuring the activity of the one or more polypeptides wherein an increase or
15 decrease of the activity of the polypeptide of at least 10% relative to the activity of the one or more polypeptides in an animal to which the candidate compound is not administered, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

The invention also provides a method for identifying a compound which regulates the activity, in an animal, of one or more of the polypeptides shown in Table 10 and/or 11, or a polypeptide encoded by one or more polynucleotide sequence indicated in Table 10 and/or 11 comprising: administering a candidate compound to an animal comprising the one or more polypeptides; and measuring the activity of the one or more polypeptides wherein an increase or decrease of the activity of the polypeptide of at least 10% relative to the activity of the one or
25 more polypeptides in an animal to which the candidate compound is not administered, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

Preferably, the candidate compound is selected from the group consisting of small molecule, protein, RNAi, and antisense.

In one embodiment, the candidate compound is an antibody which binds to the polypeptide.

The invention still further provides a method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a

5 polypeptide encoded by one or more polynucleotides indicated in Table 1, 2, 3, 4, or 5 comprising: providing a cell comprising the one or more polypeptides; generating a small molecule library; providing a candidate small molecule, selected from the library; contacting the cell with the candidate small molecule; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of

10 at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the candidate small molecule; identifies the candidate small molecule as a small molecule which regulates the activity of the one or more polypeptides.

The invention still further provides a method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 10 and/or 11, or a

15 polypeptide encoded by one or more polynucleotides indicated in Table 10 and/or 11 comprising: providing a cell comprising the one or more polypeptides; generating a small molecule library; providing a candidate small molecule, selected from the library; contacting the cell with the candidate small molecule; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of

20 at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the candidate small molecule, identifies the candidate small molecule as a small molecule which regulates the activity of the one or more polypeptides.

Preferably, the small molecule library comprises components selected from the group consisting of heterocyclics, aromatics, alicyclics, aliphatics, steroids, antibiotics, enzyme inhibitors, ligands, hormones, alkaloids, opioids, terpenes, porphyrins, toxins, and catalysts, and combinations thereof.

The invention also relates to a method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 2, comprising: (a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the

group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from
5 the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified
10 in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration
15 of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) generating a small
20 molecule library; (c) providing a candidate small molecule, selected from said library; (d) contacting said cell with said candidate small molecule; and (e) measuring the activity of said one or more polypeptides, wherein an increase or decrease of the activity of said one or more polypeptides of at least 10% relative to the activity of said one or more polypeptides in said cell, wherein the cell is not contacted with the candidate small molecule, identifies said candidate
25 small molecule as a small molecule which regulates the activity of said one or more polypeptides.

The invention also relates to a method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 10 and/or 11, comprising: (a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected
30 from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (ii) a

polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 10 and/or 11 in the column designated

5 "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (2) the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function

10 as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (v) a polynucleotide which represents a

15 fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (b) generating a small molecule library; (c) providing a candidate small molecule, selected from said library; (d) contacting said cell with said candidate small molecule; and (e) measuring the activity of said one or more

20 polypeptides, wherein an increase or decrease of the activity of said one or more polypeptides of at least 10% relative to the activity of said one or more polypeptides in said cell, wherein the cell is not contacted with the candidate small molecule, identifies said candidate small molecule as a small molecule which regulates the activity of said one or more polypeptides.

The invention further relates to a method for identifying a compound useful in the treatment of pain, comprising: providing a host cell comprising a vector comprising one or more of the polynucleotides identified in Table 1, 2, 3, 4, or 5; maintaining the host cell under conditions which permit the expression of the one or more polynucleotides; selecting a compound which regulates the activity of a polypeptide encoded by the one or more polynucleotides; administering the compound to an animal subjected to pain; and measuring the level of pain in the animal, wherein a decrease in the level of pain in the animal of at least 10%, identifies the compound as being useful for treating pain.

The invention further relates to a method for identifying a compound useful in the treatment of pain, comprising: providing a host cell comprising a vector comprising one or more of the polynucleotides identified in Table 10 and/or 11; maintaining the host cell under conditions which permit the expression of the one or more polynucleotides; selecting a 5 compound which regulates the activity of a polypeptide encoded by the one or more polynucleotides; administering the compound to an animal subjected to pain; and measuring the level of pain in the animal, wherein a decrease in the level of pain in the animal of at least 10%, identifies the compound as being useful for treating pain.

In one embodiment, the step of selecting includes the steps of contacting the cell with a 10 candidate compound; and measuring the activity of the polypeptide encoded by the one or more polynucleotides, wherein an increase or decrease of the activity of the polypeptide of at least 10% relative to the activity of the polypeptide in the cell, wherein the cell is not contacted with the candidate compound, identifies the candidate compound as a compound which regulates the activity of the polypeptide.

15 The invention further provides a method for identifying a compound useful in the treatment of pain, comprising: (a) providing a host cell comprising a vector comprising one or more of the polynucleotides selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides 20 is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a 25 polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the 30 column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates

from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and

5 encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) maintaining said host cell under conditions which permit the expression of said one or more polynucleotides; (c) selecting a compound which regulates the activity of a polypeptide encoded by said one or more polynucleotides; (d) administering said compound to an animal subjected to pain; and (e) measuring the level of pain

10 in said animal, wherein a decrease in the level of pain in said animal of at least 10%, identifies said compound as being useful for treating pain.

The invention further provides a method for identifying a compound useful in the treatment of pain, comprising: (a) providing a host cell comprising a vector comprising one or more of the polynucleotides selected from the group consisting of: (i) a polynucleotide

15 comprising any of the polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 10 and/or 11 in the

20 column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (2) the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the

25 biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (v) a polynucleotide which

30 represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective

sequence in Table 10 and/or 11 in the column designated "identifier"; (b) maintaining said host cell under conditions which permit the expression of said one or more polynucleotides; (c) selecting a compound which regulates the activity of a polypeptide encoded by said one or more polynucleotides; (d) administering said compound to an animal subjected to pain; and (e)
5 measuring the level of pain in said animal, wherein a decrease in the level of pain in said animal of at least 10%, identifies said compound as being useful for treating pain.

In one embodiment, the step of selecting includes the steps of contacting said cell with a candidate compound; and measuring the activity of the polypeptide encoded by said one or more polynucleotides, wherein an increase or decrease of the activity of said polypeptide of at least
10 10% relative to the activity of said polypeptide in said cell, wherein the cell is not contacted with the candidate compound, identifies said candidate compound as a compound which regulates the activity of said polypeptide.

The invention also provides a method of treating pain in an animal comprising
administering to the animal an antisense polynucleotide capable of inhibiting the expression of
15 one or more of the polynucleotide sequences indicated in Table 1, 2, 3, 4, or 5.

The invention further provides a method of treating pain in an animal comprising
administering to the animal a double stranded RNA molecule wherein one of the strands of the double stranded RNA molecule is identical to a portion of an mRNA transcript obtained from
one or more of the polynucleotide sequences indicated in Table 1, 2, 3, 4, or 5.

20 The invention still further provides a method of treating pain in an animal in need thereof, comprising: administering to the animal a therapeutically effective amount of an agent which modulates the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.

25 The invention also provides a method of treating pain in an animal in need thereof, comprising: administering a therapeutically effective amount of an antibody which binds to one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.

The invention still further provides a method of treating pain in an animal in need thereof, comprising: administering a therapeutically effective amount of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.

- 5 The invention further relates to a method of detecting pain in an animal suspected of having pain comprising: measuring the amount of one or more of the polynucleotide sequences of Table 10 or 11 in an animal suspected of having pain, wherein if said amount of the one or more polynucleotides is increased or decreased by at least 1.2 fold across at least three replicate screens and is statistically significant at P<0.05 in the animal compared to the amount of the
10 same one or more polynucleotide sequences of Table 10 or 11 in an animal not suspected of having pain, then pain is detected in the animal suspected of having pain.

In one embodiment, the amount of said one or more polynucleotide sequences is measured in one or more sensory neurons.

- 15 In a further embodiment, the sensory neurons are selected from the group consisting of dorsal horn neurons and dorsal root ganglion neurons.

In one embodiment the polynucleotide is measured in a “patient sample” wherein a “patient sample” as used herein refers to blood, plasma, serum, or cerebro-spinal fluid.

In one embodiment, the polynucleotide is differentially expressed by 1.4 fold.

- The invention further relates to a method of detecting pain in an animal suspected of having pain comprising: measuring the amount of one or more of the polynucleotide sequences of Table 1, 2, 3, 4, or 5 in an animal suspected of having pain, wherein if said amount of the one or more polynucleotides is increased or decreased by at least 1.2 fold across at least three replicate screens and is statistically significant at P<0.05 in the animal compared to the amount of the same one or more polynucleotide sequences of Table 1, 2, 3, 4, or 5 in an animal not suspected of having pain, then pain is detected in the animal suspected of having pain.
25

In one embodiment, the amount of said one or more polynucleotide sequences is measured in one or more sensory neurons.

In a further embodiment, the sensory neurons are selected from the group consisting of dorsal horn neurons and dorsal root ganglion neurons.

In one embodiment the polynucleotide is measured in a “patient sample” wherein a “patient sample” as used herein refers to blood, plasma, serum, or cerebro-spinal fluid.

5 In one embodiment, the polynucleotide is differentially expressed by 1.4 fold.

A method of detecting pain in an animal suspected of having pain comprising: measuring the amount of one or more of the polypeptide sequences of Table 10 or 11 in the animal suspected of having pain, wherein if the amount of said one or more polypeptides is increased or decreased by at least 1.2 fold across at least three replicate screens and is statistically significant at P<0.05 in the animal compared to the amount of the same one or more polypeptide sequences of Table 10 or 11 in an animal not suspected of having pain, then pain is detected in the animal suspected of having pain.

In one embodiment, the amount of said one or more polynucleotide sequences is measured in one or more sensory neurons.

15 In a further embodiment, the sensory neurons are selected from the group consisting of dorsal horn neurons and dorsal root ganglion neurons.

In one embodiment the polypeptide is measured in a “patient sample” wherein a “patient sample” as used herein refers to blood, plasma, serum, or cerebro-spinal fluid.

In one embodiment, the polypeptide is differentially expressed by 1.4 fold.

20 The invention still further provides a method of detecting pain in an animal suspected of having pain comprising: measuring the amount of one or more of the polypeptide sequences of Table 1, 2, 3, 4, or 5 in the animal suspected of having pain, wherein if the amount of said one or more polypeptides is increased or decreased by at least 1.2 fold across at least three replicate screens and is statistically significant at P<0.05 in the animal compared to the amount of the same one or more polypeptide sequences of Table 1, 2, 3, 4, or 5 in an animal not suspected of having pain, then pain is detected in the animal suspected of having pain.

In one embodiment, the amount of said one or more polypeptide sequences is measured in one or more sensory neurons.

In a further embodiment, the sensory neurons are selected from the group consisting of dorsal horn neurons and dorsal root ganglion neurons.

5 In one embodiment the polypeptide is measured in a “patient sample” wherein a “patient sample” as used herein refers to blood, plasma, serum, or cerebro-spinal fluid.

In one embodiment, the polypeptide is differentially expressed by 1.4 fold.

10 The invention also provides a pharmaceutical formulation comprising one or more polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, and a carrier.

The invention also provides a pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, and a carrier.

15 The invention also provides a method of treating pain in an animal comprising administering to the animal an antisense polynucleotide capable of inhibiting the expression of one or more of the polynucleotide sequences indicated in Table 10 and/or 11.

20 The invention further provides a method of treating pain in an animal comprising administering to the animal a double stranded RNA molecule wherein one of the strands of the double stranded RNA molecule is identical to a portion of an mRNA transcript obtained from one or more of the polynucleotide sequences indicated in Table 10 and/or 11.

25 The invention still further provides a method of treating pain in an animal in need thereof, comprising: administering to the animal a therapeutically effective amount of an agent which modulates the activity of one or more of the polypeptides indicated in Table 10 and/or 11, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 10 and/or 11.

The invention also provides a method of treating pain in an animal in need thereof, comprising: administering a therapeutically effective amount of an antibody which binds to one or more of the polypeptides indicated in Table 10 and/or 11, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 10 and/or 11.

5 The invention still further provides a method of treating pain in an animal in need thereof, comprising: administering a therapeutically effective amount of one or more of the polypeptides indicated in Table 10 and/or 11, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 10 and/or 11.

10 The invention also provides a pharmaceutical formulation comprising one or more polypeptides indicated in Table 10 and/or 11, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 10 and/or 11, and a carrier.

15 The invention also provides a pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides indicated in Table 10 and/or 11, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 10 and/or 11, and a carrier.

The invention further relates to the use of: (a) a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which

deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to
5 (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (vi) a polypeptide encoded by any of the polynucleotides specified in (i) to (v); in the preparation of a medicament for the treatment of pain in an animal.

The invention further relates to the use of: (a) a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the
10 respective sequence in Table 10 and/or 11 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (2) the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and
15 encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier";
20 (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (vi) a polypeptide encoded by any of the polynucleotides specified in (i) to (v); in the preparation of a medicament for the treatment of pain in an animal.
25

The present invention still further relates to the use of a compound which can modulate the activity of a polypeptide which is encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or 5 more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and 10 encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 15 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to 20 (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; in the preparation of a medicament for the treatment of pain in an animal.

The present invention provides a pharmaceutical formulation comprising one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for 25 the respective sequence in Table 2 in the column designated "%homology" and encodes a

polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide

5 exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents

10 a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a carrier.

The invention still further provides a pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides encoded by a polynucleotide selected

15 from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of

20 the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c)

25 a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological

30 function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid

sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a carrier.

The present invention still further relates to the use of a compound which can modulate
5 the activity of a polypeptide which is encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns
10 designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 10 and/or 11 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (ii) the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide
15 which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as
20 specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; in the preparation of a medicament for the treatment of pain in an animal.

25 The present invention provides a pharmaceutical formulation comprising one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein"
30

and "human protein" by at least the homology as specified for the respective sequence in Table 10 and/or 11 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (ii) the amino acid specified in Table 10 and/or 11 in the columns
5 designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the
10 genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier";
15 and a carrier.

The invention still further provides a pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 10 and/or 11 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 10 and/or 11 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence
20 in Table 10 and/or 11 in the column designated "identifier"; (ii) the amino acid specified in Table 10 and/or 11 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier"; (d) a polynucleotide the nucleic acid
25 sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as
30

specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier";
(e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 10 and/or 11 in the column designated "identifier";
5 and a carrier.

According to the invention, a sequence differentially expressed under pain conditions must be differentially expressed in the neurons of an animal subjected to nerve injury, or inflammatory pain, thus differential expression in an animal subjected to nerve injury pain is determined, according to the invention, in one or all of the following nerve injury pain models.
10 A sequence which is differentially expressed according to the invention is a sequence which is differentially expressed in (1) an axotomy pain model, (2) a spared nerve injury pain model, (3) chronic constriction pain model, (4) spinal segmental nerve lesion pain model, or (5) an inflammation pain model, or may be differentially expressed in all five pain models, or in a combination of two or more models.

15 As used herein differential expression of a sequence in nerve tissue is determined in either a "nerve injury pain model" or a "inflammation pain model", or both. There are four alternate nerve injury pain models by which differential expression can be determined according to the invention: axotomy, spared nerve injury (SNI), spinal segmental nerve lesion, and chronic constriction.

20 As used herein, an "axotomy pain model" refers to a situation in which one or a plurality of peripheral nerve fibers is severed, either by traumatic injury or experimental or surgical manipulation. An "axotomy pain model" may further refer to an experimental model in which all of the axons of a given population of nerve cells are completely severed. For example, an "axotomy pain model" useful in the present invention may be a model in which all of the axons
25 that comprise the sciatic nerve are surgically cut. All of the nerve cells in the dorsal root ganglion which gave rise to the axons of the sciatic nerve are thus said to be "axotomized".

As used herein, a "spared nerve injury pain model" refers to a situation in which one of the terminal branches of the sciatic nerve is spared from axotomy (Decosterd and Woolf, 2000

Pain 87: 149). The SNI procedure comprises an axotomy and ligation of the tibial and common peroneal nerves leaving the sural nerve intact.

As used herein, a “spinal segmental nerve lesion” and “chronic constriction” refer to two types of “neuropathic pain models” useful in the present invention. Both models are well known to those of skill in the art (See, for example Kim and Chung, 1992 *Pain* 50: 355; and Bennett, 1993 *Muscle Nerve* 16: 1040 for a description of the “segmental nerve lesion” and “chronic constriction” respectively). A “segmental nerve lesion” and/or “chronic constriction” neuropathic pain model may be evaluated for the presence of “pain” using any of the behavioral, electrophysiological, and/or neurochemical criteria described below.

As used herein, an “inflammatory pain model” refers to a situation in which an animal is subjected to pain, as defined herein, by the induction of peripheral tissue inflammation (Stein et al., (1988) *Pharmacol Biochem Behav* 31: 445-451; Woolf et al., (1994) *Neurosci*. 62, 327-331). The inflammation can be produced by injection of an irritant such as complete Freunds adjuvant (CFA), carrageenan, turpentine, croton oil, and the like into the skin, subcutaneously, into a muscle, into a joint, or into a visceral organ. In addition, an “inflammatory pain model” can be produced by the administration of cytokines or inflammatory mediators such as lippopolysaccharide (LPS), or nerve growth factor (NGF) which can mimic the effects of inflammation. An “inflammatory pain model” can be evaluated for the presence of “pain” using behavioral, electrophysiological, and/or neurochemical criteria as described below.

A polynucleotide is thus differentially expressed herein if it is differentially expressed in any or all of the axotomy, SNI, chronic constriction, segmental nerve lesion and inflammatory pain models.

As used herein, “nerve tissue” refers to animal tissue comprising nerve cells, the neuropil, glia, neural inflammatory cells, and endothelial cells in contact with “nerve tissue”. “Nerve cells” may be any type of nerve cell known to those of skill in the art including, but not limited to motor neurons, sensory neurons, enteric neurons, sympathetic neurons, parasympathetic neurons, association neurons, and central nervous system neurons. “Glial cells” useful in the present invention include, but are not limited to astrocytes, Schwan cells, and oligodendrocytes. “Neural inflammatory cells” useful in the present invention include, but are not limited to

microglia. Preferably, “nerve tissue” as used herein refers to nerve cells obtained from the dorsal root ganglion, or dorsal horn of the spinal cord.

- As used herein, “sensory neuron” refers to any sensory neuron in an animal. A “sensory neuron” can be a peripheral sensory neuron, central sensory neuron, or enteric sensory neuron.
- 5 A “sensory neuron” includes all parts of a neuron including, but not limited to the cell body, axon, and dendrite(s). A “sensory neuron” refers to a neuron which receives and transmits information (encoded by a combination of action potentials, neurotransmitters and neuropeptides) relating to sensory input, including, but not limited to pain, heat, touch, cold, pressure, vibration, etc. Examples of “sensory neurons” include, but are not limited to dorsal
- 10 root ganglion neurons, dorsal horn neurons of the spinal cord, autonomic neurons, trigeminal ganglion neurons, and the like.

As used herein, “animal” refers to a organism classified within the phylogenetic kingdom Animalia. As used herein, an “animal” also refers to a mammal. Animals, useful in the present invention, include, but are not limited to mammals, marsupials, mice, dogs, cats, cows, humans, deer, horses, sheep, livestock, and the like.

As used herein, “subjected” refers to a state of being in which an animal is experiencing pain, wherein whether or not the animal is experiencing pain is determined using the behavioral, electrophysiological, and/or neurochemical criteria described above. As used herein, “subjected” does not refer to the past experience of pain only, but can also include the present experience of pain.

As used herein, “polynucleotide” refers to a polymeric form of nucleotides of 2 up to 1,000 bases in length, or even more, either ribonucleotides or deoxyribonucleotides or a modified form of either type of nucleotide. The term includes single and double stranded forms of DNA. The term is synonymous with “oligonucleotide”. Polynucleotides of the invention include those indicated by accession number in Tables 1, 2, 3, 4, or 5, or a portion thereof.

As used herein, “polypeptide” refers to any kind of polypeptide such as peptides, human proteins, fragments of human proteins, proteins or fragments of proteins from non-human sources, engineered versions proteins or fragments of proteins, enzymes, antigens, drugs,

molecules involved in cell signaling, such as receptor molecules, antibodies, including polypeptides of the immunoglobulin superfamily, such as antibody polypeptides or T-cell receptor polypeptides. Preferably, a “polypeptide” useful according to the invention is indicated by accession number in Tables 1, 2, 3, 4, or 5. Also included, are a fragment, domain, or epitope
5 of one or more of the polypeptides indicated in Tables 2, 3, 4, or 5 provided that the fragment, domain, or epitope maintains the same function as the protein indicated in Table 2, 3, 4, or 5, wherein the function of the polypeptide is known to those of skill in the art. Also included, are a fragment, domain, or epitope of one or more of the polypeptides indicated in Tables 2 or 3 provided that the fragment, domain, or epitope maintains the same function as the protein
10 indicated in Table 2 or 3, under the column heading “identifier”, “description” or “protein type”

As used herein, the term “vector” refers to a nucleic acid molecule capable of transporting another nucleic acid to which it has been linked. One type of vector is a “plasmid”, which refers to a circular double stranded nucleic acid loop into which additional nucleic acid segments can be ligated. Another type of vector is a “viral vector”, wherein additional nucleic acid segments can be ligated into the viral genome. Certain vectors are capable of autonomous replication in a host cell into which they are introduced (e.g., bacterial vectors having a bacterial origin of replication and episomal mammalian vectors). Other vectors (e.g., non-episomal mammalian vectors) are integrated into the genome of a host cell upon introduction into the host cell, and thereby are replicated along with the host genome. Moreover, certain vectors are
15 capable of directing the expression of genes to which they are operatively linked. Such vectors are referred to herein as “expression vectors”. In general, expression vectors of utility in recombinant nucleic acid techniques are often in the form of plasmids. In the present specification, “plasmid” and “vector” can be used interchangeably as the plasmid is the most commonly used form of vector. However, the invention is intended to include such other forms
20 of expression vectors, such as viral vectors (e.g., replication defective retroviruses, adenoviruses and adeno-associated viruses), which serve equivalent functions.

As used herein, the term "hybridizing" or "hybridization" refers to the hydrogen binding with a complementary nucleic acid, via an interaction between for example, a target nucleic acid sequence and a nucleic acid member in an array.

Typically, selective hybridization occurs when two nucleic acid sequences are substantially complementary (at least about 65% complementary over a stretch of at least 14 to 25 nucleotides, preferably at least about 75%, more preferably at least about 90% complementary). See Kanehisa, M., 1984, Nucleic Acids Res. 12: 203, incorporated herein by reference. As a result, it is expected that a certain degree of mismatch is tolerated. Such mismatch may be small, such as a mono-, di- or tri-nucleotide. Alternatively, a region of mismatch may encompass loops, which are defined as regions in which there exists a mismatch in an uninterrupted series of four or more nucleotides.

Numerous factors influence the efficiency and selectivity of hybridization of two nucleic acids, for example a nucleic acid member to a target nucleic acid sequence. These factors include nucleic acid member length, nucleotide sequence and/or composition, hybridization temperature, buffer composition and potential for steric hindrance in the region to which the nucleic acid member is required to hybridize.

A positive correlation exists between the nucleic acid member length and both the efficiency and accuracy with which a nucleic acid member will anneal to a target sequence. In particular, longer sequences have a higher melting temperature (T_M) than do shorter ones, and are less likely to be repeated within a given target sequence, thereby minimizing promiscuous hybridization. Hybridization temperature varies inversely with nucleic acid member annealing efficiency, as does the concentration of organic solvents, e.g., formamide, that might be included in a hybridization mixture, while increases in salt concentration facilitate binding. Under stringent annealing conditions, longer nucleic acids, hybridize more efficiently than do shorter ones, which are sufficient under more permissive conditions. As herein used, the term “standard stringent conditions” means hybridization will occur only if there is at least 95% and preferably at least 97% identity between the sequences, wherein the region of identity comprises at least 10 nucleotides. In one embodiment, the sequences hybridize under stringent conditions following incubation of the sequences overnight at 42°C, followed by stringent washes (0.2X SSC at 65° C). As several factors affect the stringency of hybridization, the combination of parameters is more important than the absolute measure of a single factor.

As defined herein, an “array” refers a plurality of unique nucleic acids attached to one surface of a solid support at a density exceeding 20 different nucleic acids/cm² wherein each of the nucleic acids is attached to the surface of the solid support in a non-identical preselected region. In one embodiment, the nucleic acid attached to the surface of the solid support is DNA.

5 In a preferred embodiment, the nucleic acid attached to the surface of the solid support is cDNA. In another preferred embodiment, the nucleic acid attached to the surface of the solid support is cDNA synthesized by polymerase chain reaction (PCR). Preferably, a nucleic acid comprising an array, according to the invention, is at least 20 nucleotides in length. Preferably, a nucleic acid comprising an array is less than 6,000 nucleotides in length. More preferably, a nucleic acid

10 comprising an array is less than 500 nucleotides in length. In one embodiment, the array comprises at least 500 different nucleic acids attached to one surface of the solid support. In another embodiment, the array comprises at least 10 different nucleic acids attached to one surface of the solid support. In yet another embodiment, the array comprises at least 10,000 different nucleic acids attached to one surface of the solid support. The term “nucleic acid”, as

15 used herein, is interchangeable with the term “polynucleotide”.

As used herein, “plurality” refers to more than two. Plurality, according to the invention, can be 3 or more, 100 or more, or 1000 or more.

As used herein, “attaching” or “spotting” refers to a process of depositing a nucleic acid onto a solid substrate to form a nucleic acid array such that the nucleic acid is irreversibly bound

20 to the solid substrate via covalent bonds, hydrogen bonds or ionic interactions.

As used herein, “stably associated” refers to a nucleic acid that is irreversibly bound to a solid substrate to form an array via covalent bonds, hydrogen bonds or ionic interactions such that the nucleic acid retains its unique preselected position relative to all other nucleic acids that are stably associated with an array, or to all other preselected regions on the solid substrate under

25 conditions wherein an array is analyzed (i.e., hybridization and scanning).

As used herein, “solid substrate” or “solid support” refers to a material having a rigid or semi-rigid surface. The terms “substrate” and “support” are used interchangeable herein with the terms “solid substrate” and “solid support”. The solid support may be biological, non-biological, organic, inorganic, or a combination of any of these, existing as particles, strands, precipitates,

gels, sheets, tubing, spheres, containers, capillaries, pads, slices, films, plates, slides, etc. Often, the substrate is a silicon or glass surface, (poly)tetrafluoroethylene, (poly)vinylidene fluoride, polystyrene, polycarbonate, a charged membrane, such as nylon 66 or nitrocellulose, or combinations thereof. In a preferred embodiment, the solid support is glass. Preferably, at least 5 one surface of the substrate will be substantially flat. Preferably, the surface of the solid support will contain reactive groups, including, but not limited to, carboxyl, amino, hydroxyl, thiol, or the like. In one embodiment, the surface is optically transparent.

As used herein, "preselected region", "predefined region", or "unique position" refers to a localized area on a substrate which is, was, or is intended to be used for the deposit of a nucleic acid and is otherwise referred to herein in the alternative as a "selected region" or simply a "region." The preselected region may have any convenient shape, e.g., circular, rectangular, elliptical, wedge-shaped, etc. In some embodiments, a preselected region is smaller than about 1 cm², more preferably less than 1 mm², still more preferably less than 0.5 mm², and in some embodiments about 0.125 to 0.5 mm².
10

15 As used herein, "unique to Table X", where "X" is one or more of 2, 3, 4, or 5, refers to a polynucleotide or polypeptide sequence which is indicated in Table X, but is not indicated in Table 1.

As used herein, the term "level of expression" refers to the measurable expression level of a given nucleic acid. The level of expression of a nucleic acid is determined by methods well 20 known in the art. The term "differentially expressed" or "differential expression" refers to an increase or decrease in the measurable expression level of a given nucleic acid. As used herein, "differentially expressed" or "differential expression" means the difference in the level of expression of a nucleic acid is at least 1.4-fold or more in two samples used for comparison, both of which are compared to the same normal standard sample. "Differentially expressed" or 25 "differential expression" according to the invention also means a 1.4-fold, or more, up to and including 2-fold, 5-fold, 10-fold, 20-fold, 50-fold or more difference in the level of expression of a nucleic acid in two samples used for comparison. A nucleic acid is also said to be "differentially expressed" in two samples if one of the two samples contains no detectable expression of a given nucleic acid, provided that the detectably expressed nucleic acid is

expressed at +/- at least 1.4 fold. Differential expression of a nucleic acid sequence is “inhibited” the difference in the level of expression of the nucleic acid in two or more samples used for comparison is altered such that it is no longer at least a 1.4 fold difference. Absolute quantification of the level of expression of a nucleic acid may be accomplished by including a 5 known concentration(s) of one or more control nucleic acid species, generating a standard curve based on the amount of the control nucleic acid and extrapolating the expression level of the “unknown” nucleic acid species from the hybridization intensities of the unknown with respect to the standard curve.

Alternatively, “differential expression”, according to the invention, refers to a 1.2 fold 10 increase or decrease in the level of expression of a nucleic acid in an animal subjected to pain compared to the level of expression in an animal not subjected to the same pain, combined with a statistical significance of $p<0.05$ in at least three replicate assays of gene expression. Calculation of a statistically significant 1.2 fold threshold in the increase or decrease in the difference of expression of a nucleic acid, when compared to a normal standard sample is based on a statistical 15 analysis of triplicate array data points using, for example, a student’s t-test. “Differential expression” of a polynucleotide sequence, as used herein, is established if the expression of a sequence measured in several types of animal pain model, such as nerve injury models or an inflammation model, is increased or decreased by at least 1.2 fold in at least one of the pain models, and if the differential expression is found to be significant across three replicate analyses 20 of differential expression in an animal pain model. Alternatively, a differentially expressed polynucleotide may be differentially expressed in several (e.g., two or more) animal pain models.

The “level of expression” is measured by hybridization analysis using labeled target 25 nucleic acids according to methods well known in the art (see, for example, Ausubel et al., Short Protocols in Molecular Biology, 3rd Ed. 1995, John Wiley and Sons, Inc.). The label on the target nucleic acid is a luminescent label, an enzymatic label, a radioactive label, a chemical label or a physical label. Preferably, the target nucleic acids are labeled with a fluorescent molecule. Preferred fluorescent labels include fluorescein, amino coumarin acetic acid, tetramethylrhodamine isothiocyanate (TRITC), Texas Red, Cy3 and Cy5.

As used herein, “differential expression” when measured using microarray hybridization as described herein, can be determined using one or more of three alternate measurements: (1) The hybridization intensity can be measured by comparing the level of hybridization of nucleic acid samples obtained from a naïve animal to the level of hybridization of nucleic acid samples 5 from an animal subjected to any of the pain models described herein. This measurement is termed the “intensity ratio”. (2) Alternatively, a method of measuring “differential expression” is to utilize the “Affymetrix ratio” which is obtained by analyzing the hybridization levels obtained from nucleic acid samples obtained from a naïve animal and those obtained from nucleic acid samples obtained from an animal subjected to any of the pain models described herein, using the 10 software provided with the Affymetrix Microarray software suite (Affymetrix, Santa Clara, CA). The Affymetrix ratio can be determined by following the protocols included with the Affymetrix brand software and microarray analysis equipment. Whether measured using the intensity ratio or the Affymetrix ratio, a nucleic acid molecule of the present invention is differentially expressed if it demonstrates at least a 1.4 fold change in expression levels in an animal subjected 15 to the neuropathic or inflammation pain as described herein relative to an animal not subjected to the same pain. (3) Preferably, “differential expression” is measured in either a nerve injury model, or inflammation pain model, or both, at multiple time points after an animal has been subjected to pain. “Differential expression” is further measured in at least three replicate samples for each time point, and for multiple pain models (e.g. nerve injury models, an 20 inflammation models), such that a statistical evaluation may be made of the significance of the differential expression. Accordingly, a polynucleotide sequence is “differentially expressed” if it is differentially expressed by at least 1.4 fold, and/or is differentially expressed by at least 1.2 fold, with a p-value of less than 0.05 across at least two sets of triplicate assays in any of the pain models versus the corresponding control. The fold differential expression, when paired with the 25 statistical analysis of at least two replicate expression assays, can be measured using either of the “intensity ratio” or “affymetrix ratio” described above.

DESCRIPTION OF THE DRAWINGS

Figure 1 shows the data from a representative Northern analysis performed on target nucleic acid obtained from dorsal root ganglion neurons from a rat axotomy pain model.

Figure 2 shows the *in situ* hybridization of dorsal root ganglion tissue sections with labeled oligonucleotide probes specific for SNAP, c-jun, or TrkA.

Figure 3 shows the *in situ* hybridization of dorsal root ganglion tissue sections with labeled oligonucleotide probes specific for GTPcylco, IES-JE, CCHL2A, or VGF.

5

DETAILED DESCRIPTION

The present invention is based, in part, on the discovery that the polynucleotides listed in Tables 1, 2, 3, 4, or 5 are differentially expressed by at least +/- 1.4 fold in nerve injury and/or inflammation animal pain models. While the polynucleotides listed in Table 1 have been previously suggested to be regulated in pain models, the present invention is distinguished over 10 the prior art in that only polynucleotides which demonstrate at least a +/-1.4 fold change in expression in a neuropathic and/or inflammation animal pain model are considered to be differentially expressed according to the invention. The invention further provides the polynucleotides listed in Tables 2, 3, 4, or 5 which are differentially expressed by at least +/- 1.4 fold in a nerve injury or inflammation animal pain model, but which have not previously been 15 suggested to be regulated in animal pain models (i.e., which are not indicated in Table 1). In addition, the invention provides the polynucleotides listed in Table 2 which have been identified herein as being differentially expressed by at least +/- 1.2 fold at least two sets of triplicate assays in multiple nerve injury and inflammation pain models, with a p-value of less than 0.05. The invention further provides methods for identifying nucleic acid sequences which are 20 differentially regulated in animals that have been subjected to pain, wherein differential expression is defined as an increase or decrease of the expression of the nucleic acid sequence by at least 1.2 fold compared to the same sequence in an animal which has not been subjected to pain, in triplicate assays with a statistical significance of p<0.05. The invention further provides methods for identifying nucleic acid sequences which are differentially regulated in animals that 25 have been subjected to pain, wherein differential expression is defined as an increase or decrease of the expression of the nucleic acid sequence by at least 1.4 fold compared to the same sequence in an animal which has not been subjected to pain. The invention further provides methods of constructing arrays comprising isolated nucleic acid sequences which are differentially regulated in pain, and methods of screening for potential therapeutic compounds which may alter the

expression of these sequences using the arrays. The invention also relates to methods for screening for candidate compounds which are capable of regulating the expression of one or more of the polynucleotide sequences of Tables 1, 2, 3, 4, or 5, or which are capable of regulating the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a 5 polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, or which are capable of modulating pain in an animal.

In addition, the invention is based on the discovery that a subset of genes described in Tables 1-5 are differentially expressed in two or more neuropathic pain models. This subset of genes is shown in Table 10. The invention also relates to a yet smaller subset of genes than that 10 of Table 10, which, based on their known or putative function in biological systems are likely to modulate or transduce pain by changing the properties, excitability, structure and/or connectivity of neurons in sensory pain circuits.

As described above, animals which have been subjected to pain include animal models of pain, in which the animal has been artificially manipulated to mimic one or more types of pain, 15 including physiological, inflammatory, or neuropathic pain. Animals subjected to pain also include animals which have experienced pain as the result of a traumatic injury, or animals which have experienced physiological, inflammatory, or neuropathic pain not induced in the setting of an animal model.

Pain

20 The present invention relates to polynucleotides which are differentially expressed in (a) an animal that is subjected to pain relative to (b) an animal not subjected to pain. According to the invention, the pain to which the animals of (a) and (b) are subjected is the same pain, that is, if a polynucleotide is differentially expressed in an axotomy pain model then the differential expression is relative to the expression of the polynucleotide in an animal which is not an 25 axotomy pain model.

As used herein, “pain” refers to a state-dependent sensory experience generated by the activation of peripheral sensory neurons, the nociceptors. As used herein, “pain” refers to several different types of pain, including physiological or protective pain, inflammatory pain that

occurs after tissue damage, and neuropathic pain which occurs after damage to the nervous system. Physiological pain is initiated by sensory nociceptor fibers innervating the peripheral tissues and activated only by noxious stimuli, and is characterized by a high threshold to mechanical and thermal stimuli and rapid, transient responses to such stimuli. Inflammatory and
5 neuropathic pain are characterized by displays of behavior indicating either spontaneous pain, measured by spontaneous flexion, vocalization, biting, or even self mutilation, or abnormal hypersensitivity to normally innocuous stimuli or to noxious stimuli, such as mechanical or thermal stimuli. Regardless of the type of pain, as used herein “pain” can be measured using behavioral criteria, such as thermal and mechanical sensitivity, weight bearing, visceral
10 hypersensitivity, or spontaneous locomotor activity, electrophysiological criteria, such as *in vivo* or *in vitro* recordings from primary sensory neurons and central neurons to assess changes in receptive field properties, excitability or synaptic input, or neurochemical criteria, such as changes in the expression or distribution of neurotransmitters, neuropeptides and proteins in primary sensory and central neurons, activation of signal transduction cascades, expression of
15 transcription factors, or phosphorylation of proteins.

Behavioral criteria used to measure “pain” include, but are not limited to mechanical allodynia and hyperalgesia, and temperature allodynia and hyperalgesia. Mechanical allodynia is generally measured using a series of ascending force von Frey monofilaments. The filaments are each assigned a force which must be applied longitudinally across the filament to produce a
20 bend, or bow in the filament. Thus the applied force which causes an animal to withdraw a limb can be measured (Tal and Bennett, 1994 *Pain* 57: 375). An animal can be said to be experiencing “pain” if the animal demonstrates a withdrawal reflex in response to a force that is reduced by at least 30% compared to the force that elicits a withdrawal reflex in an animal which is not in “pain”. In one embodiment, an animal is said to be experiencing “pain” if the
25 withdrawal reflex in response to a force that is reduced 40%, 50%, 60%, 70%, 80%, 90% and as much as 99% compared to the force required to elicit a similar reflex in a naïve animal.

Mechanical hypersensitivity can be measured by applying a sharp object, such as a pin, to the skin of an animal with a force sufficient to indent, but not penetrate the skin. The duration of withdrawal from the sharp stimulus may then be measured, wherein an increase in the duration
30 of withdrawal is indicative of “pain” (Decostard et al., 1998 *Pain* 76: 159). For example, an

animal can be said to be experiencing “pain” if the withdrawal duration following a sharp stimulus is increased by at least 2 fold compared with an animal that is not experiencing “pain”. In one embodiment, an animal is said to be experiencing “pain” if the withdrawal duration is increased by 3, 4, 5, 6, 7, 8, 9, and up to 10 fold compared to an animal not experiencing “pain”.

5 Temperature allodynia can be measured by placing a drop of acetone onto the skin surface of an animal using an instrument such as a blunt needle attached to a syringe without touching the skin with the needle. The rapid evaporation of the acetone cools the skin to which it is applied. The duration of the withdrawal response to the cold sensation can then be measured (Choi et al., 1994 *Pain* 59: 369). An animal can be said to be in “pain” if the withdrawal
10 duration following acetone application is increased by at least 2 fold as compared to an animal that is not experiencing “pain”. According to the invention an animal can be said to be in “pain” if the withdrawal duration following thermal stimulation is increased by 4, 6, 8, 10, 12, 14, 16, 18, and up to 20 fold compared to an animal not experiencing “pain”.

15 Temperature hyperalgesia can be measured by exposing a portion of the skin surface of an animal, such as the plantar surface of the foot, to a beam of radiant heat through a transparent perspex surface (Hargreaves et al., 1988 *Pain* 32:77). The duration of withdrawal from the heat stimulus may be measured, wherein an increase in the duration of withdrawal is indicative of “pain”. An animal can be said to be experiencing “pain” if the duration of the withdrawal from the heat stimulus increases by at least 2 fold compared with an animal that is not experiencing
20 “pain”. In addition, an animal can be said to be experiencing “pain” if the duration of the withdrawal from heat stimulus is increased by 3, 4, 5, 6, 7, 8, 9, and up to 10 fold compared with an animal that is not experiencing “pain”.

25 In addition to the behavioral criteria described above, an animal can be deemed to be experiencing “pain” by measuring electrophysiological changes, *in vitro* or *in vivo*, in primary sensory, or central sensory neurons. Electrophysiological changes can include increased neuronal excitability, changes in receptive field input, or increased synaptic input. The technique of measuring cellular physiology is well known to those of skill in the art (see, for example, Hille, 1992 Ion channels of excitable membranes. Sinauer Associates, Inc., Sunderland, MA). An increase in neuronal excitability may be identified, for example, by measuring an increase in

the number of action potentials per unit time in a given neuron. An animal is said to be experiencing “pain” if there is at least a 2 fold increase in the action potential firing rate compared with an animal that is not experiencing “pain.” In addition, an animal can be said to be experiencing “pain” if the action potential firing rate is increased by , 3, 4, 5, 6, 7, 8, and up to 5 10 fold compared to an animal that is not experiencing “pain”. An increase in synaptic input to a sensory neuron, either peripheral or central, may be identified, for example, by measuring the rate of end-plate excitatory potentials (EPSPs) recorded from the neuron. An animal is said to be experiencing “pain” if there is at least a 2 fold, 3, 4, 5, 6, 7, 8, and up to 10 fold increase in the rate of EPSPs recorded from a given neuron compared to an animal that is not experiencing pain.

10 Alternatively, neurochemical criteria may be used to determine whether or not an animal is experiencing “pain”. For example, an animal which has experienced “pain” will display changes in the expression or distribution of neurotransmitters, neuropeptides and protein in primary sensory and central neurons, activation of signal transduction cascades, expression of transcription factors, or phosphorylation of proteins. Gene and protein expression, and 15 phosphorylation of proteins such as transcription factors may be measured using a number of techniques known to those of skill in the art including but not limited to PCR, Southern analysis, Northern analysis, Western analysis, immunohistochemistry, and the like. Examples of signal transduction pathway constituents which may be activated in an animal which is experiencing pain include, but are not limited to ERK, p38, and CREB. Examples of genes which may exhibit 20 enhanced expression include immediate early genes such as *c-fos*, protein kinases such as PKC and PKA. Examples of other proteins which may be phosphorylated in an animal experiencing pain include receptors and ion channels such as the NMDA or AMPA receptors. Regardless of whether the measure is of transcription, translation or phosphorylation an animal can be said to be experiencing “pain” if one measures at least a 2 fold increase or decrease in any of these 25 parameters compared to an animal not experiencing pain. An animal can be further said to be experiencing “pain” if there is a 3, 4, 5, 6, 7, 8, and up to 10 fold increase in the measurement of any of the above parameters compared to an animal not experiencing “pain”.

30 As used herein, “pain” refers to any of the behavioral, electrophysiological, or neurochemical criteria described above. In addition, “pain” can be assessed using combinations of these criteria.

As used herein, “pain” can refer to “pain” experienced by an animal as a result of accidental trauma (e.g., falling trauma, burn trauma, toxic trauma, etc.), congenital deformity or malformation, infection (e.g., inflammatory pain), or other conditions which are not within the control of the animal experiencing the “pain”. Alternatively, “pain” may be inflicted onto an
5 animal by subjecting the animal to one or more “pain models”.

The present invention comprises polynucleotide sequences that are differentially expressed in nerve injury pain models, including axotomy, SNI, chronic constriction, and segmental nerve lesion, as well as inflammation pain models. It is also within the scope of the present invention that the polynucleotides described herein as being differentially expressed in
10 nerve injury, or neuropathic pain models may be also differentially expressed in other pain models known to those of skill in the art.

As used herein, a “pain model” refers to any manipulation of an animal during which the animal experiences “pain”, as defined above. “Pain models” can be classified as those that test the sensitivity of normal animals to intense or noxious stimuli. These tests include responses to
15 thermal, mechanical, or chemical stimuli. Thermal stimuli is usually hot (42 to 55°C) and includes radiant heat to the tail (the tail flick test) radiant heat to the plantar surface of the hindpaw (the Hargreaves test, *supra*), the hotplate test, and immersion of the hindpaw or tail in hot water. Alternatively, thermal stimuli can be cold stimulus (30° to -10° C), such as immersion in cold water, acetone evaporation or cold plate tests which may be used to test cold pain
20 responsiveness using the thresholds discussed above. The end points are latency to response and the duration of the response as well as vocalization and licking the paw, as described above. Mechanical Stimuli typically involves measurements of the threshold for eliciting a withdrawal reflex of the hindpaw to graded strength monofilament von Frey hairs wherein one can measure the force of the filament required to elicit a reflex. Alternatively, mechanical stimuli can be a
25 sustained pressure stimulus to a paw (e.g., the Ugo Basila analgesiometer). The duration of response to a standard pin prick can also be measured. Threshold values for identifying a stimulus that causes “pain” to the animal are described above. Chemical Stimuli typically involves the application or injection of a chemical irritant to the skin, muscle joints or internal organs like the bladder or peritoneum. Irritants can include capsaicin, mustard oil, bradykinin,

ATP, formalin, or acetic acid. The outcome measures include vocalization, licking the paw, writhing or spontaneous flexion.

- Alternatively, a “pain model” can be a test that measures changes in the excitability of the peripheral or central components of the pain neural pathway pain sensitization, termed
- 5 “peripheral sensitization” and “central sensitization”. “Peripheral Sensitization” involves changes in the threshold and responsiveness of high threshold nociceptors which can be induced by: repeated heat stimuli, or application or injection of sensitizing chemicals (e.g. prostaglandins, bradykinin, histamine, serotonin, capsaicin, mustard oil). The outcome measures are thermal and mechanical sensitivity in the area of application/stimulation using the techniques described
- 10 above in behaving animals or electrophysiological measurements of single sensory fiber receptive field properties either *in vivo* or using isolated skin nerve preparations. “Central sensitization” involves changes in the excitability of neurons in the central nervous system induced by activity in peripheral pain fibers. “Central sensitization” can be induced by noxious stimuli (e.g., heat) chemical irritants (e.g., injection/application of capsaicin/mustard oil or
- 15 formalin or electrical activation of sensory fibers). The outcome measures are: behavioral, electrophysiological, and neurochemical.

- Alternatively, a “pain model” can refer to those tests that measure the effect of peripheral inflammation on pain sensitivity. The inflammation can be produced by injection of an irritant such as complete Freunds adjuvant, carrageenan, turpentine, croton oil etc into the skin,
- 20 subcutaneously, into a muscle into a joint or into a visceral organ. Production of a controlled UV light burn and ischaemia can also be used. Administration of cytokines or inflammatory mediators such as lipopolysaccharide (LPS), or nerve growth factor (NGF) can mimic the effects of inflammation. The outcome of these models may also be measured as behavioral, electrophysiological, and/or neurochemical changes.

- 25 Further, a “pain model” includes those tests that mimic peripheral neuropathic pain using lesions of the peripheral nervous system. Examples of such lesions include, but are not limited to complete transection of a peripheral nerve (axotomy; Watson, 1973, *J. Physiol.* 231:41), ligation of a spinal segmental nerve (CHUNG model; Kim and Chung, 1992, *Pain*, 50:355-63), partial nerve injury (Seltzer, 1979, *Pain*, 29: 1061), Spared Nerve Injury model (Decosterd and

Woolf, 2000, *Pain* 87:149), chronic constriction injury (Bennett, 1993 *Muscle Nerve* 16: 1040), toxic neuropathies, such as diabetes (streptozocin model), pyridoxine neuropathy, taxol, vincristine and other antineoplastic agent-induced neuropathies, ischaemia to a nerve, peripheral neuritis models (e.g., CFA applied perineurally), models of postherpetic neuralgia using HSV 5 infection. Such neuropathic pain models are also referred to herein as a “nerve injury pain model”. The outcome of these neuropathic or nerve injury “pain models” can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above.

In addition, a “pain model” refers to those tests that mimic central neuropathic pain using lesions of the central nervous system. For example, central neuropathic pain may be modeled by 10 mechanical compressive, ischemic, infective, or chemical injury to the spinal cord of an animal. The outcome of such a model is measured using the behavioral, electrophysiological, and/or neurochemical criteria described above.

Identification of Nucleic Acid Sequences Differentially Expressed in Pain

In one embodiment, the present invention provides isolated nucleic acid sequences which 15 are differentially regulated in an animal which has been subjected to neuropathic pain relative to an animal not subjected to neuropathic pain, and a method for identifying such sequences. The present invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to a nucleic acid sample comprising one or 20 more nucleic acid molecules of known identity; and measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to the same pain is indicative of the differential expression of the nucleotide 25 sequence in an animal subjected to pain. Alternatively, the invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing at least three replicates of a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of a nucleic acid sample comprising one or more nucleic acid molecules of known identity and measuring the hybridization of the nucleic

acid sample to the one or more nucleic acid molecules of known identity for each of said replicates. A 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the replicates, of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected
5 to pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain

Generally, the present invention provides a method for identifying nucleic acid sequences which are differentially regulated in an animal which has been subjected to pain comprising isolating messenger RNA from an animal, generating cRNA from the mRNA sample,
10 hybridizing the cRNA to a microarray comprising a plurality of nucleic acid molecules stably associated with discrete locations on the array, and identifying patterns of hybridization of the cRNA to the array. According to the present invention, a nucleic acid molecule which hybridizes to a given location on the array is said to be differentially regulated if the hybridization signal is at least 1.4 fold higher or lower than the hybridization signal at the same
15 location on an identical array hybridized with a nucleic acid sample obtained from an animal that has not been subjected to pain. Alternatively, at least three independent replicate RNA samples are generated and hybridized to at least three replicate arrays, such that statistical significance may be conferred to the fold change in expression of a sequence in an animal subjected to pain relative to an animal not subjected to pain, wherein a 1.2 fold change in expression and a p-value
20 of less than 0.05 is indicative of differential expression.

Nucleic Acid Samples

Nucleic acid samples to be examined for differentially regulated sequences may be obtained from animals using techniques that are well described in the art. In a preferred embodiment of the invention, the animal from which the nucleic acid is obtained is a pain model.
25 In one embodiment, an animal pain model is an experimental model which tests the sensitivity of normal animals to intense or noxious stimuli. These tests include responses to thermal, mechanical, or chemical stimuli. Thermal stimuli is usually hot (42 to 55°C) and includes radiant heat to the tail (the tail flick test) radiant heat to the plantar surface of the hindpaw (the Hargreaves test, *supra*), the hotplate test, and immersion of the hindpaw or tail in hot water.

Alternatively, thermal stimuli can be cold stimulus (30° to -10° C), such as immersion in cold water, acetone evaporation or cold plate tests which may be used to test cold pain responsiveness using the thresholds discussed above. The end points are latency to response and the duration of the response as well as vocalization and licking the paw, as described above. Mechanical stimuli typically involves measurements of the threshold for eliciting a withdrawal reflex of the hindpaw to graded strength monofilament von Frey hairs wherein one can measure the force of the filament required to elicit a reflex. Alternatively, mechanical stimuli can be a sustained pressure stimulus to a paw (e.g., the Ugo Basila analgesiometer). The duration of response to a standard pin prick can also be measured. Threshold values for identifying a stimulus that causes "pain" to the animal are described above. Chemical Stimuli typically involves the application or injection of a chemical irritant to the skin, muscle joints or internal organs like the bladder or peritoneum. Irritants can include capsaicin, mustard oil, bradykinin, ATP, formalin, or acetic acid. The outcome measures include vocalization, licking the paw, writhing or spontaneous flexion. In an alternate embodiment, the animal pain model is designed to measure changes in the excitability of the peripheral or central components of the pain neural pathway pain sensitization, termed peripheral sensitization and central sensitization. Peripheral Sensitization involves changes in the threshold and responsiveness of high threshold nociceptors which can be induced by: repeated heat stimuli, or application or injection of sensitizing chemicals (e.g. prostaglandins, bradykinin, histamine, serotonin, capsaicin, mustard oil). The outcome measures are thermal and mechanical sensitivity in the area of application/stimulation using the techniques described above in behaving animals or electrophysiological measurements of single sensory fiber receptive field properties either *in vivo* or using isolated skin nerve preparations. Central sensitization involves changes in the excitability of neurons in the central nervous system induced by activity in peripheral pain fibers. Central sensitization can be induced by noxious stimuli (e.g., heat) chemical irritants (e.g., injection/application of capsaicin/mustard oil or formalin or electrical activation of sensory fibers). The outcome measures are: behavioral, electrophysiological, and neurochemical. In a further embodiment, the animal pain model is an experimental model that measures the effect of peripheral inflammation on pain sensitivity. The inflammation can be produced by injection of an irritant such as complete Freunds adjuvant, carrageenan, turpentine, croton oil etc into the skin, subcutaneously, into a muscle into a joint or into a visceral organ using doses and administration techniques that are well known in the art.

Production of a controlled UV light burn and ischaemia can also be used. Administration of cytokines or inflammatory mediators such as lipopolysaccharide (LPS), or nerve growth factor (NGF) can mimic the effects of inflammation. The outcome of these models may also be measured as behavioral, electrophysiological, and/or neurochemical changes.

- 5 In a preferred embodiment, the animal pain model is a model that mimic peripheral neuropathic pain using lesions of the peripheral nervous system (i.e., a nerve injury model). Examples of such lesions include, but are not limited to complete transection of a peripheral nerve (axotomy; Watson, 1973, *J. Physiol.* 231:41), ligation of a spinal segmental nerve (Kim and Chung, 1992, *Pain*, 50:355-63), partial nerve injury (Seltzer, 1979, *Pain*, 29: 1061), Spared
10 Nerve Injury model (Decosterd and Woolf, 2000, *Pain* 87:149), chronic constriction injury (Bennett, 1993 *Muscle Nerve* 16: 1040), toxic neuropathies, such as diabetes (streptozocin model), pyridoxine neuropathy, taxol, vincristine and other antineoplastic agent-induced neuropathies, ischaemia to a nerve, peripheral neuritis models (e.g., CFA applied perineurally), models of postherpetic neuralgia using HSV infection. The outcome of these neuropathic pain
15 models can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above. Alternatively, the neuropathic animal pain model may be one which mimics central neuropathic pain using lesions of the central nervous system. For example, central neuropathic pain may be modeled by mechanical compressive, ischemic, infective, or chemical injury to the spinal cord of an animal. The outcome of such a model is measured using the behavioral, electrophysiological, and/or neurochemical criteria described above.
20

In a further preferred embodiment, the animal pain model is a model which mimics inflammation using injectable irritants and/or inflammatory mediators. Examples of such models include animals which are injected with, for example complete Freunds adjuvant (CFA), carrageenan, turpentine, croton oil, cytokines, lippopolysaccharide (LPS), or nerve growth factor (NGF) (Stein et al., 1988 *Pharmacol Biochem Behav* 31:445; Woolf et al., 1994, *Neuroscience*, 62: 327). The outcome of inflammation pain model can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above.

Alternatively, nucleic acid samples may be obtained from animals which are not pain models, but which have been subjected to pain as a result of traumatic injury, infection, genetic,

or congenital birth defects, and the like. In addition, nucleic acid samples may be obtained from an animal which is not a pain model, and which has not been subjected to pain as a result of a traumatic injury, or infection. Such an animal is termed a “naïve” animal, and the expression of nucleic acid sequences in the naïve animal can be compared to the expression of the same
5 nucleic acid molecules in animals subjected to pain to determine differential expression.

Nucleic acid samples, useful in the present invention for determining differential expression of nucleic acid sequences in an animal subjected to pain may be obtained from any cell of the animal. In a preferred embodiment, the nucleic acid is obtained from one or more sensory neurons of the animal. In a further preferred embodiment the nucleic acid is obtained
10 from the primary sensory neurons of the dorsal root ganglion or dorsal horn of the spinal cord. However, nucleic acid may be obtained from other neurons including, but not limited to cranial nerve nuclei, peripheral and/or central autonomic neurons, enteric neurons, thalamic neurons, and neurons of sensory regions of the cortex such as primary sensory cortex.
15

Sensory neurons may be obtained from an animal using techniques that are well established in the art. For example, in embodiments where nucleic acid samples are to be obtained from rat dorsal root ganglion (DRG) neurons, rats (whether naïve or pain models) are rapidly killed by decapitation and the DRG is dissected, removed and quickly snap-frozen on a bed of crushed dry ice, or in liquid nitrogen. RNA is then extracted from the tissues, also using techniques that are well known in the art (see, for example, Ausubel *supra*). For example, the
20 tissue is prepared by homogenization in a glass teflon homogenizer in 1 ml denaturing solution (4M guanidinium thiocyanate, 25 mM sodium citrate, pH 7.0, 0.1M 2-ME, 0.5% (w/v) N-laurylsarkosine) per 100mg tissue. Following transfer of the homogenate to a 5-ml polypropylene tube, 0.1 ml of 2 M sodium acetate, pH 4, 1 ml water-saturated phenol, and 0.2 ml of 49:1 chloroform/isoamyl alcohol are added sequentially. The sample is mixed after the
25 addition of each component, and incubated for 15 min at 0-4°C after all components have been added. The sample is separated by centrifugation for 20 min at 10,000 x g, 4°C, precipitated by the addition of 1 ml of 100% isopropanol, incubated for 30 minutes at -20°C and pelleted by centrifugation for 10 minutes at 10,000 x g, 4°C. The resulting RNA pellet is dissolved in 0.3 ml denaturing solution, transferred to a microfuge tube, precipitated by the addition of 0.3 ml of
30 100% isopropanol for 30 minutes at -20°C, and centrifuged for 10 minutes at 10,000 x g at 4°C.

The RNA pellet is washed in 70% ethanol, dried, and resuspended in 100-200 μ l DEPC-treated water or DEPC-treated 0.5% SDS (Chomczynski and Sacchi, 1987, Anal. Biochem., 162: 156).

Alternatively, total RNA may be extracted from tissues useful in the present invention using Trizol reagent (Invitrogen, Carlsbad, CA), following the manufacturers instructions.

- 5 Purity and integrity of RNA is assessed by absorbance at 260/280 nm and separation of RNA samples on a 1% agarose gel followed by inspection under ultraviolet light.

Following total RNA isolation from tissues or cell of an animal useful in the present invention, the RNA is converted to cRNA for use in array hybridization. The preparation of cRNA is well-known and well-documented in the prior art.

- 10 In an alternate embodiment, the total RNA is converted to cDNA for use in array hybridization. cDNA may be prepared according to the following method. Total cellular RNA is isolated (as described) and passed through a column of oligo(dT)-cellulose to isolate polyA RNA. The bound polyA mRNAs are eluted from the column with a low ionic strength buffer. To produce cDNA molecules, short deoxythymidine oligonucleotides (12-20 nucleotides) are
15 hybridized to the polyA tails to be used as primers for reverse transcriptase, an enzyme that uses RNA as a template for DNA synthesis. Alternatively, mRNA species are primed from many positions by using short oligonucleotide fragments comprising numerous sequences complementary to the mRNA of interest as primers for cDNA synthesis. The resultant RNA-DNA hybrid is converted to a double stranded DNA molecule by a variety of enzymatic steps
20 well-known in the art (Watson et al., 1992, Recombinant DNA, 2nd edition, Scientific American Books, New York).

Microarray analysis

In one embodiment, the present invention provides a method for the identification of differentially expresses nucleic acid sequences in pain in which cDNA obtained from sensory neurons of animals subjected to pain is hybridized to a polynucleotide microarray of known genes or ESTs and the hybridization levels of the cDNA to the polynucleotide microarray are measured.

Microarrays, useful in the identification of differentially expressed nucleic acid sequences, may be any microarray known in the art which comprises known sequences. A polynucleotide microarray refers to a plurality of unique nucleic acids attached to one surface of a solid support at a density exceeding 20 different nucleic acids/cm² wherein each of the nucleic acids is attached to the surface of the solid support in a non-identical preselected region. In one embodiment, the nucleic acid attached to the surface of the solid support is DNA. In a preferred embodiment, the nucleic acid attached to the surface of the solid support is cDNA. In another preferred embodiment, the nucleic acid attached to the surface of the solid support is cDNA synthesized by polymerase chain reaction (PCR). Preferably, a nucleic acid comprising an array, according to the invention, is at least 20 nucleotides in length. Preferably, a nucleic acid comprising an array is less than 6,000 nucleotides in length. More preferably, a nucleic acid comprising an array is less than 500 nucleotides in length. In one embodiment, the array comprises at least 500 different nucleic acids attached to one surface of the solid support. In another embodiment, the array comprises at least 10 different nucleic acids attached to one surface of the solid support. In yet another embodiment, the array comprises at least 10,000 different nucleic acids attached to one surface of the solid support.

In a preferred embodiment, the microarray comprises known nucleic acid molecules stably associated with discrete predefined regions, and which are obtained from an animal of the same species as the animal which had been subjected to pain and from which the nucleic acid sample to be tested is obtained. In a preferred embodiment, the microarray is a commercially available microarray which may be obtained from a commercial source such as Affymetrix (Santa Clara, CA). For example, in one embodiment nucleic acid samples are obtained from a rat pain model and are hybridized to a polynucleotide microarray comprising known rat gene sequences and ESTs. In a further preferred embodiment, the microarray is an Affymetrix Gene Chip® array including, but not limited to the human U95 array, the murine U74 array, and the rat U34 array.

In one embodiment three independent replicate nucleic acid samples are prepared from three separate pain model animals (for tissues with a low abundance of nerve cells, such as the DRG, samples from several animals may be pooled to generate a single replicate) are hybridized

to at least three replicate polynucleotide arrays, such that a statistical analysis may be performed on the resulting hybridization levels.

Sample preparation

Prior to hybridization of nucleic acid to the polynucleotide microarray, the nucleic acid samples must be prepared to facilitate subsequent detection of hybridization. The nucleic acid samples obtained from animals that have been subjected to pain (and from naïve animals for the determination of differential expression) are referred to as “probes” for the microarray and are capable of binding to a polynucleotide or nucleic acid member of complementary sequence through one or more types of chemical bonds, usually through complementary base pairing, 10 usually through hydrogen bond formation.

As used herein, a polynucleotide derived from an mRNA transcript refers to a polynucleotide for which synthesis of the mRNA transcript or a subsequence thereof has ultimately served as a template. Thus, a cDNA reverse transcribed from an mRNA, an RNA transcribed from that cDNA, a DNA amplified from the cDNA, an RNA transcribed from the 15 amplified DNA, etc., are all derived from the mRNA transcript and detection of such derived products is indicative of the presence and/or abundance of the original transcript in a sample. Thus, suitable target nucleic acid samples include, but are not limited to, mRNA transcripts of a gene or genes, cDNA reverse transcribed from the mRNA, cRNA transcribed from the cDNA, DNA amplified from a gene or genes, RNA transcribed from amplified DNA, and the like. The 20 polynucleotide probes used herein are preferably derived from sensory neurons of an animal that has been subjected to pain.

In the simplest embodiment, such a polynucleotide probe comprises total mRNA or a nucleic acid sample corresponding to mRNA (e.g., cDNA) isolated from sensory neurons, ganglia, nuclei, or brain tissue. In another embodiment, the total mRNA is isolated from a given 25 sample using, for example, an acid guanidinium-phenol-chloroform extraction method and polyA+ mRNA is isolated by oligo dT column chromatography or by using (dT)_n magnetic beads (see, e.g., Sambrook et al., Molecular Cloning: A Laboratory Manual (2nd ed.), Vols. 1-3, Cold Spring Harbor Laboratory, (1989), or Current Protocols in Molecular Biology, F. Ausubel et al., ed. Greene Publishing and Wiley-Interscience, New York (1987). In a preferred

embodiment, total RNA is extracted using TRIzol reagent (GIBCO/BRL). Purity and integrity of RNA is assessed by absorbance at 260/280nm and agarose gel electrophoresis followed by inspection under ultraviolet light.

In some embodiments, it is desirable to amplify the probe nucleic acid sample prior to hybridization, for example, when total RNA is obtained from a small population of neurons. One of skill in the art will appreciate that whatever amplification method is used, if a quantitative result is desired, care must be taken to use a method that maintains or controls for the relative frequencies of the amplified polynucleotides. Methods of "quantitative" amplification are well known to those of skill in the art. For example, quantitative PCR involves simultaneously co-amplifying a known quantity of a control sequence using the same primers. This provides an internal standard that may be used to calibrate the PCR reaction. The high density array may then include probes specific to the internal standard for quantification of the amplified polynucleotide. Detailed protocols for quantitative PCR are provided in PCR Protocols, A Guide to Methods and Applications, Innis et al., Academic Press, Inc. N.Y., (1990).

Other suitable amplification methods include, but are not limited to polymerase chain reaction (PCR) (Innis, et al., PCR Protocols. A guide to Methods and Application. Academic Press, Inc. San Diego, (1990)), ligase chain reaction (LCR) (see Wu and Wallace, Genomics, 4: 560 (1989), Landegren, et al., Science, 241: 1077 (1988) and Barringer, et al., Gene, 89: 117 (1990), transcription amplification (Kwoh, et al., Proc. Natl. Acad. Sci. USA, 86: 1173 (1989)), and self-sustained sequence replication (Guatelli, et al., Proc. Nat. Acad. Sci. USA, 87: 1874 (1990)).

In a particularly preferred embodiment, the probe nucleic acid sample mRNA is reverse transcribed with a reverse transcriptase and a primer consisting of oligo dT and a sequence encoding the phage T7 promoter to provide single stranded DNA template. The second DNA strand is polymerized using a DNA polymerase. After synthesis of double-stranded *cDNA*, T7 RNA polymerase is added and RNA is transcribed from the *cDNA* template. Successive rounds of transcription from each single *cDNA* template results in amplified RNA. Methods of in vitro polymerization are well known to those of skill in the art (see, e.g., Sambrook, supra.) and this particular method is described in detail by Van Gelder, et al., Proc. Natl. Acad. Sci. USA, 87:

1663-1667 (1990) who demonstrate that in vitro amplification according to this method preserves the relative frequencies of the various RNA transcripts. Moreover, Eberwine et al. Proc. Natl. Acad. Sci. USA, 89: 3010-3014 provide a protocol that uses two rounds of amplification via in vitro transcription to achieve greater than 10^6 fold amplification of the 5 original starting material thereby permitting expression monitoring even where biological samples are limited.

In order to measure the hybridization of a probe nucleic acid to a polynucleotide array to determine differential expression, the probe nucleic acid is preferable labeled with a detectable label. Any analytically detectable marker that is attached to or incorporated into a molecule may 10 be used in the invention. An analytically detectable marker refers to any molecule, moiety or atom which is analytically detected and quantified.

Detectable labels suitable for use in the present invention include any composition detectable by spectroscopic, photochemical, biochemical, immunochemical, electrical, optical or chemical means. Useful labels in the present invention include biotin for staining with labeled 15 streptavidin conjugate, magnetic beads (e.g., DynabeadsTM), fluorescent dyes (e.g., fluorescein, Texas red, rhodamine, green fluorescent protein, and the like), radiolabels (e.g., ³H, ¹²⁵I, ³⁵S, ¹⁴C, or ³²P), enzymes (e.g., horse radish peroxidase, alkaline phosphatase and others commonly used in an ELISA), and colorimetric labels such as colloidal gold or colored glass or plastic (e.g., polystyrene, polypropylene, latex, etc.) beads. Patents teaching the use of such labels include 20 U.S. Pat. Nos. 3,817,837; 3,850,752; 3,939,350; 3,996,345; 4,277,437; 4,275,149; and 4,366,241.

Means of detecting such labels are well known to those of skill in the art. Thus, for example, radiolabels may be detected using photographic film or scintillation counters, 25 fluorescent markers may be detected using a photodetector to detect emitted light. Enzymatic labels are typically detected by providing the enzyme with a substrate and detecting the reaction product produced by the action of the enzyme on the substrate, and colorimetric labels are detected by simply visualizing the colored label.

The labels may be incorporated by any of a number of means well known to those of skill in the art. However, in a preferred embodiment, the label is simultaneously incorporated into the

probe during the amplification step in the preparation of the probe polynucleotides. Thus, for example, polymerase chain reaction (PCR) with labeled primers or labeled nucleotides will provide a labeled amplification product. In a preferred embodiment, transcription amplification, as described above, using a labeled nucleotide (e.g. fluorescein-labeled UTP and/or CTP)

5 incorporates a label into the transcribed polynucleotides.

Alternatively, a label may be added directly to the original polynucleotide sample (e.g., mRNA, polyA mRNA, cDNA, etc.) or to the amplification product after the amplification is completed. Means of attaching labels to polynucleotides are well known to those of skill in the art and include, for example nick translation or end-labeling (e.g. with a labeled RNA) and

10 subsequent attachment (ligation) of a polynucleotide linker joining the sample polynucleotide to a label (e.g., a fluorophore).

In a preferred embodiment, the fluorescent modifications are by cyanine dyes e.g. Cy-3/Cy-5 dUTP, Cy-3/Cy-5 dCTP (Amersham Pharmacia) or alexa dyes (Khan, J., Simon, R., Bittner, M., Chen, Y., Leighton, S. B., Pohida, T., Smith, P. D., Jiang, Y., Gooden, G. C., Trent,

15 J. M. & Meltzer, P. S. (1998) *Cancer Res.* 58, 50095013.).

In a preferred embodiment, a probe nucleic acid obtained from an animal that has been subjected to pain and a nucleic acid sample obtained from an animal not subjected to pain are co-hybridized to the polynucleotide array. In this embodiment, the two probe samples used for comparison are labeled with different fluorescent dyes which produce distinguishable detection signals, for example, probes made from an animal pain model are labeled with Cy5 and probes made from a naïve animal are labeled with Cy3. The differently labeled target samples are hybridized to the same microarray simultaneously. In a preferred embodiment, the labeled targets are purified using methods known in the art, e.g., ethanol purification or column purification.

In a preferred embodiment, the probes will include one or more control molecules which hybridize to control sequences on the microarray to normalize signals generated from the microarray. Labeled normalization targets are polynucleotide sequences that are perfectly complementary to control oligonucleotides that are spotted onto the microarray. The signals obtained from the normalization controls after hybridization provide a control for variations in hybridization conditions, label intensity, "reading" efficiency and other factors that may cause

the signal of a perfect hybridization to vary between arrays. In a preferred embodiment, signals (e.g., fluorescence intensity) read from all other probes in the array are divided by the signal (e.g., fluorescence intensity) from the control probes thereby normalizing the measurements.

Preferred normalization probes are selected to reflect the average length of the other
5 probes present in the sample, however, they are selected to cover a range of lengths. The normalization control(s) can also be selected to reflect the (average) base composition of the other probes in the array, however in a preferred embodiment, only one or a few normalization probes are used and they are selected such that they hybridize well (i.e. no secondary structure) and do not match any other probe molecules.

10 *Hybridization to polynucleotide arrays*

To determine the differential expression of a nucleic acid sequence in an animal subjected to pain, labeled probe nucleic acids are hybridized to a polynucleotide array comprising polynucleotides of known sequence or identity. Polynucleotide hybridization involves providing a denatured probe and target polynucleotide under conditions where the probe
15 nucleic acid member and its complementary target can form stable hybrid duplexes through complementary base pairing. The polynucleotides that do not form hybrid duplexes are then washed away leaving the hybridized polynucleotides to be detected, typically through detection of an attached detectable label. It is generally recognized that polynucleotides are denatured by increasing the temperature or decreasing the salt concentration of the buffer containing the
20 polynucleotides. Under low stringency conditions (e.g., low temperature and/or high salt) hybrid duplexes (e.g., DNA:DNA, RNA:RNA, or RNA:DNA) will form even where the annealed sequences are not perfectly complementary. Thus specificity of hybridization is reduced at lower stringency. Conversely, at higher stringency (e.g., higher temperature or lower salt) successful hybridization requires fewer mismatches.

25 The invention provides for hybridization conditions comprising the Dig (digoxigenin) hybridization mix (Boehringer); or formamide-based hybridization solutions, for example as described in Ausubel et al., *supra* and Sambrook et al. *supra*.

Alternatively, as described above, a preferred embodiment of the present invention comprises hybridizing probe nucleic acid molecules to an Affymetrix Gene Chip®. In this embodiment, hybridization of the probe nucleic acid molecules to the polynucleotide array is carried out according to the manufacturers instructions.

5 Methods of optimizing hybridization conditions are well known to those of skill in the art (see, e.g., Laboratory Techniques in Biochemistry and Molecular Biology, Vol. 24: Hybridization With Polynucleotide Probes, P. Tijssen, ed. Elsevier, N.Y., (1993)).

Following hybridization, non-hybridized labeled or unlabeled polynucleotide is removed from the support surface, conveniently by washing, thereby generating a pattern of hybridized 10 probe polynucleotide on the substrate surface. A variety of wash solutions are known to those of skill in the art and may be used. The resultant hybridization patterns of labeled, hybridized oligonucleotides and/or polynucleotides may be visualized or detected in a variety of ways, with the particular manner of detection being chosen based on the particular label of the test polynucleotide, where representative detection means include scintillation counting, 15 autoradiography, fluorescence measurement, calorimetric measurement, light emission measurement and the like. In the preferred embodiment, in which the probe nucleic acid is hybridized to an Affymetrix Gene Chip®, the hybridization pattern of the probe nucleic acid molecules is detected and measured according to the Affymetrix protocol, and using Affymetrix instrumentation.

20 Following hybridization and any washing step(s) and/or subsequent treatments, as described above, the resultant hybridization pattern is detected. In detecting or visualizing the hybridization pattern, the intensity or signal value of the label will be not only be detected but quantified, by which is meant that the signal from each spot of the hybridization will be measured and compared to a unit value corresponding to the signal emitted by a known number 25 of end labeled target polynucleotides to obtain a count or absolute value of the copy number of each end-labeled target that is hybridized to a particular spot on the array in the hybridization pattern.

Expression analysis

Methods for analyzing the data collected from hybridization to arrays are well known in the art. For example, where detection of hybridization involves a fluorescent label, data analysis can include the steps of determining fluorescent intensity as a function of substrate position from the data collected, removing outliers, i.e., data deviating from a predetermined statistical distribution, and calculating the relative binding affinity of the test polynucleotides from the remaining data. The resulting data is displayed as an image with the intensity in each region varying according to the binding affinity between associated oligonucleotides and/or polynucleotides and the test polynucleotides.

According to the present invention, there are three sets of measurements which may be used to determine differential expression of a polynucleotide obtained from an animal subjected to pain relative to an animal not subjected to pain. In one embodiment, differential expression may be determined by measuring the intensity ratio, as defined above, wherein a +/- 1.4 fold change or greater in the intensity ratio is indicative of differential expression. In a preferred embodiment, differential expression may be determined by measuring the Affymetrix ratio using the software suite and manufacturers protocols, available from Affymetrix (Santa Clara, CA), wherein a change in expression of +/- 1.4 fold or greater is indicative of differential expression.

In another preferred embodiment, differential expression of sequences can be established if they are differentially expressed by at least 1.2 fold, with a p-value of less than 0.05, in a statistical analysis of triplicate array data points using an appropriate statistical analysis, such as the student's t-test.

For example, Table 2 represents a composite of all those genes which were originally identified as differentially regulated by at least 1.4 fold in either SNI or axotomy pain models. Differential expression was subsequently evaluated in at least three replicate arrays using at least three replicate nucleic acid samples obtained from the animal nerve injury and inflammation pain models. From the replicate screening method, polynucleotide sequences can be identified as differentially expressed which have a lower fold change (i.e., lower than 1.4 fold) in expression in an animal subjected to pain, provided that a statistical analysis of the replicate data yields a p-value of less than 0.05. Tables 6 and 7 below show an example of an experimental replicate scheme which may be used to obtain the data shown in Table 2. The animal pain model is

indicated in the column labeled “animal model”, and the elapsed time following the generation of the pain model (i.e., time post surgery) is indicated. Experiments can be performed on samples obtained from both dorsal horn (Table 6) and DRG (Table 7) tissues.

Table 6. Affimetrix microarray experiments					
Animal Model	Time Points			# hybridization exp	Total # hybr.
	3d	7d	21d		
CCI DH	3d	7d	21d	40d	4x3
Chung DH	3d	7d	21d	40d	4x3
SNI DH	3d	7d	21d	40d	4x3
Sham CCI=SNI DH	3d	7d	21d	none	3x3
Sham Chung DH	3d	7d	21d	none	3x3
Naïve DH					1x3
					Total
					57
CFA injec. DH	12h	24h	5d		3x3
					Total
					67

Table 7. Affimetrix microarray experiments					
Animal Model	Time Points			# hybridization exp	
	3d	7d	21d		
CCI DRG L4	3d	7d	21d	40d	4x3
Chung DRG L4	3d	7d	21d	40d	4x3
SNI DRG L4	3d	7d	21d	40d	4x3
CCI DRG L5	3d	7d	21d	40d	4x3
Chung DRG L5	3d	7d	21d	40d	4x3
SNI DRG L5	3d	7d	21d	40d	4x3
Sham CCI=SNI L4+L5	3d	7d	21d	none	3x3
Sham Chung L4+L5	3d	7d	21d	none	3x3
Naïve L4					1x3
Naïve L5					1x3
CFA injec. DRG (L4+L5 pool)	12h	24h	5d		3x3

Total 105

DH = dorsal horn of the spinal cord

DRG = dorsal root ganglion

CCI = chronic constriction of the sciatic nerve

Chung = ligation of the spinal nerves L5 and L6 (lumbar region) distal to the correspondent dorsal root ganglions

SNI = spared nerve injury model (ligation and axotomy of the tibial and peroneal nerves)

CFA = injection in the paw of complete Freund's adjuvant (inflammatory pain model)

The nerve injury pain models represented are the Spinal segmental nerve injury (Chung), Chronic Constriction Injury (CCI) and Spared Nerve Injury (SNI) models at time points 3, 7, 21 and 40 days. The inflammatory model represented is intraplantar Complete Freund's Adjuvant

5 (CFA) injection into the hind paw at 0.5, 1 and 5 days post injection. The tissue are lumbar DRGs and dorsal horn (i.e two tissues four models, 4 time points (3 for CFA) = 30 different pain comparisons each in triplicate each compared against the appropriate control.

The following is an example of a detection protocol that may be used for the simultaneous analysis of two nucleic acid samples to be compared, wherein one sample is

10 obtained from primary sensory neurons of an animal pain model and the other is obtained from primary sensory neurons of a naïve animal, and wherein each sample is labeled with a different fluorescent dye, such as Cy3 and Cy5. This type of protocol would produce an intensity ratio.

Each element of the microarray is scanned for the first fluorescent color. The intensity of the fluorescence at each array element is proportional to the expression level of that nucleic acid

15 sequence in the sample.

The scanning operation is repeated for the second fluorescent label. The ratio of the two fluorescent intensities provides a highly accurate and quantitative measurement of the relative gene expression level in the two primary sensory neuron samples.

In a preferred embodiment, fluorescence intensities of the immobilized target nucleic acid sequences can be determined from images taken with a custom confocal microscope equipped with laser excitation sources and interference filters appropriate for the Cy3 and Cy5 fluorophores. Separate scans were taken for each fluorophore at a resolution of 225 μm^2 per

pixel and 65,536 gray levels. Image segmentation to identify areas of hybridization, normalization of the intensities between the two fluorophore images, and calculation of the normalized mean fluorescent values at each target are as described (Khan, J., Simon, R., Bittner, M., Chen, Y., Leighton, S. B., Pohida, T., Smith, P. D., Jiang, Y., Gooden, G. C., Trent, J. M. & 5 Meltzer, P. S. (1998) *Cancer Res.* 58, 50095013. Chen, Y., Dougherty, E. R. & Bittner, M. L. (1997) *Biomed. Optics* 2, 364374). Normalization between the images is used to adjust for the different efficiencies in labeling and detection with the two different fluorophores. This is achieved by equilibrating to a value of (1) the signal intensity ratio of a set of internal control genes spotted on the array.

10 Following detection or visualization, the hybridization pattern is used to determine quantitative information about the genetic profile of the labeled probe polynucleotide sample that was contacted with the array to generate the hybridization pattern, as well as the physiological source from which the labeled probe polynucleotide sample was derived. By genetic profile is meant information regarding the types of polynucleotides present in the sample, e.g. in terms of 15 the types of genes to which they are complementary, as well as the copy number of each particular polynucleotide in the sample. From this data, one can also derive information about the physiological source from which the target polynucleotide sample was derived, such as the types of genes expressed in the tissue or cell which is the physiological source, as well as the levels of expression of each gene, particularly in quantitative terms.

20 In a particularly preferred embodiment, where it is desired to quantify the transcription level (and thereby expression) of one or more polynucleotide sequences in a sample, the probe nucleic acid sample is one in which the concentration of the mRNA transcript(s) of the gene or genes, or the concentration of the polynucleotides derived from the mRNA transcript(s), is proportional to the transcription level (and therefore expression level) of that gene. Similarly, it 25 is preferred that the hybridization signal intensity be proportional to the amount of hybridized polynucleotide. While it is preferred that the proportionality be relatively strict (e.g., a doubling in transcription rate results in a doubling in mRNA transcript in the sample polynucleotide pool and a doubling in hybridization signal), one of skill will appreciate that the proportionality is more relaxed and even non-linear. Thus, for example, an assay where a 5 fold difference in 30 concentration of the probe mRNA results in a 3 to 6 fold difference in hybridization intensity is

sufficient for most purposes. Where more precise quantification is required appropriate controls are run to correct for variations introduced in sample preparation and hybridization as described herein. In addition, serial dilutions of "standard" probe mRNAs are used to prepare calibration curves according to methods well known to those of skill in the art. Of course, where simple
5 detection of the presence or absence of a transcript is desired, no elaborate control or calibration is required.

For example, if a microarray nucleic acid member is not labeled after hybridization, this indicates that the gene comprising that nucleic acid member is not expressed in either sample. If a nucleic acid member is labeled with a single color, it indicates that a labeled gene was
10 expressed only in one sample. The labeling of a nucleic acid member comprising an array with both colors indicates that the gene was expressed in both samples. Even genes expressed once per cell are detected (1 part in 100,000 sensitivity). A 1.4-fold or greater difference in expression intensity in the two samples being compared is indicative of differential expression.

Verification of differential expression

15 The above methods result in the identification, using polynucleotide arrays comprising polynucleotides of known sequences, of nucleic acid molecules that are differentially expressed in an animal subjected to pain. Following the initial identification of such sequences using the microarrays, however, the differential expression is validated using techniques that are well known in the art.

20 In one embodiment, following identification of a 1.4 fold or greater difference in hybridization intensity in the sample obtained from an animal subjected to pain relative to a naïve animal, reverse transcription PCR (RT-PCR) is performed using primers specific for the hybridizing sequence. For example, given that the identity and sequence of each nucleic acid comprising the polynucleotide array is known, if probe nucleic acid hybridizes at a given
25 position on the array, one of skill in the art can design primers based on the sequence of the nucleic acid known to be at that position, which can then be used to amplify the known sequence from the original nucleic acid sample obtained from the animal. The technique of designing primers for PCR amplification is well known in the art. Oligonucleotide primers and probes are 5 to 100 nucleotides in length, ideally from 17 to 40 nucleotides, although primers and probes of

different length are of use. Primers for amplification are preferably about 17-25 nucleotides. Primers useful according to the invention are also designed to have a particular melting temperature (Tm) by the method of melting temperature estimation. Commercial programs, including Oligo™ (MBI, Cascade, CO), Primer Design and programs available on the internet, 5 including Primer3 and Oligo Calculator can be used to calculate a Tm of a nucleic acid sequence useful according to the invention. Preferably, the Tm of an amplification primer useful according to the invention, as calculated for example by Oligo Calculator, is preferably between about 45 and 65° C and more preferably between about 50 and 60° C. Preferably, the Tm of a probe useful according to the invention is 7° C higher than the Tm of the corresponding 10 amplification primers. It is preferred that, following generation of cDNA by RT-PCR, the cDNA fragment is cloned into an appropriate sequencing vector, such as a PCRII vector (TA cloning kit; Invitrogen). The identity of each cloned fragment is then confirmed by sequencing in both directions. It is expected that the sequence obtained from sequencing would be the same as the known sequence originally spotted on the polynucleotide array.

15 In one embodiment, following sequence confirmation of the identity of the differentially expressed polynucleotide, the differential expression of the polynucleotide in sensory neurons of an animal subjected to pain relative to a naïve animal is confirmed by Northern analysis. Sequence confirmed cDNAs are used to produce ³²P-labeled cDNA probes using techniques well known in the art (see, for example, Ausubel, *supra*), or commercially available kits (Prime-It Kit, 20 Stratagene, La Jolla, CA). Northern analysis of total RNA obtained from naïve animals and animals subjected to pain is then performed using classically described techniques. For example, total RNA samples are denatured with formaldehyde / formamide and run for two hours in a 1% agarose, MOPS-acetate-EDTA gel. RNA is then transferred to nitrocellulose membrane by upward capillary action and fixed by UV cross-linkage. Membranes are pre-hybridized for at 25 least 90 minutes and hybridized overnight at 42° C. Post hybridization washes are performed as known in the art (Ausubel, *supra*). The membrane is then exposed to x-ray film overnight with an intensifying screen at -80° C. Labeled membranes are then visualized after exposure to film. The signal produced on the x-ray film by the radiolabeled cDNA probes can then be quantified using any technique known in the art, such as scanning the film and quantifying the relative pixel 30 intensity using a computer program such as NIH Image (National Institutes of Health, Bethesda, MD), wherein at least a 2 fold, preferably a 1.4 fold increase or decrease in the hybridization

intensity of the radiolabeled probe obtained from the animal subjected to pain relative to the naïve animal validates the differential expression observed using the polynucleotide microarray.

In an alternate embodiment, the differential expression of polynucleotide sequences, first identified using the polynucleotide microarrays is verified using the Taqman™ (Perkin-Elmer, 5 Foster City, CA) techniques, which is performed with a transcript-specific antisense probe. This probe is specific for the PCR product (e.g. a nucleic acid sequence identified using the microarray as being differentially regulated) and is prepared with a quencher and fluorescent reporter probe complexed to the 5' end of the oligonucleotide. Different fluorescent markers can be attached to different reporters, allowing for measurement of two products in one reaction.

10 When Taq DNA polymerase is activated, it cleaves off the fluorescent reporters by its 5'-to-3' nucleolytic activity. The reporters, now free of the quenchers, fluoresce. The color change is proportional to the amount of each specific product and is measured by fluorometer; therefore, the amount of each color can be measured and the RT-PCR product can be quantified. The PCR reactions can be performed in 96 well plates so that samples derived from many individuals can

15 be processed and measured simultaneously. The Taqman™ system has the additional advantage of not requiring gel electrophoresis and allows for quantification when used with a standard curve. Quantitative analysis of the mRNA levels for a given gene present in the originally obtained sample from an animal subjected to pain permits a determination of the differential expression of the particular mRNA relative to that obtained from a naïve animal. A fold increase

20 or decrease in expression of a nucleic acid sequence from an animal subjected to pain of at least 2 relative to a naïve animal is indicative of differential expression, and is sufficient to validate the differential expression first identified using the polynucleotide microarray.

In a still further embodiment, the differential expression of a polynucleotide identified using microarray analysis is verified by *in situ* hybridization. Given that the sequence of each of 25 the nucleic acid molecules on the microarray used to identify differential expression is known, labeled cDNA or antisense RNA probes can be generated using techniques which are known in the art (Ausubel et al., *supra*). The probes are then hybridized to fixed (e.g., fixed in 4% paraformaldehyde) thin (5-50 µm) tissue sections of, for example, the dorsal root ganglion. Briefly, prior to hybridization, the tissue sections are incubated in acetic anhydride, dehydrated 30 in graded ethanols, and de-lipidated in chloroform. Tissue sections are then hybridized with one

or more labeled probes for 24 hours at 45° C. Hybridized probe may be subsequently detected using techniques which are compatible with the label incorporated in the probe. The level of hybridization may be quantitated using any technique known to those of skill in the art. For example, the hybridization signal may be photographed, and the photograph scanned into a computer and the hybridization signal quantitated using software such as NIH Image (NIH, Bethesda, MD). The measured level of hybridization may then be correlated with the differential expression level measured using the microarray analysis.

In a further embodiment, differential expression of sequences, identified based on the 1.4 fold threshold criteria, described above, can be verified as being differentially expressed if they are differentially expressed by at least 1.2 fold, with a p-value of less than 0.05, in a statistical analysis of triplicate array data points using an appropriate statistical analysis, such as a student's t-test.

Differentially Expressed Polynucleotides

The present invention provides polynucleotides and genes which are differentially expressed in an animal which has been subjected to pain relative to an animal not subjected to pain, wherein the differential expression is determined using the methods described above. Using the above methods a number of polynucleotides have been identified which are differentially expressed in an animal subjected to pain. These polynucleotides and their respective human homologs, as well as the polypeptide molecules encoded thereby are shown in Tables 1, 2, 3, 4, or 5.

Table 1 shows a group of differentially expressed polynucleotides and genes, several of which demonstrate an at least 1.4 fold change in expression in an animal subjected to pain in both axotomy and SNI pain models relative to naïve animals; indicated by the Fold Change of Axotomy/Naïve or SNI/Naive. Those polynucleotides that are not differentially expressed by at least +/- 1.4 fold are not considered to be differentially expressed according to the invention. The polynucleotides of Table 1 have been previously suggested to be involved in the mechanisms of pain and neuronal injury. The present invention, however, distinguishes these polynucleotides by providing a threshold of differential expression which is less than that previously accepted for such analysis.

Table 2 shows polynucleotides of the present invention which have been established as being differentially expressed by at least 1.4 fold in an axotomy, SNI, or inflammation animal pain model, and which have been further analyzed by triplicate analysis as shown in Tables 6 and 7. The polynucleotide sequences shown in Table 2 have been established herein as being
5 differentially expressed by at least 1.2 fold, with a level of statistical significance of p<0.05 as determined by a student's t-test over at least three replicate assays (the replicate assay schemes are shown in Tables 6 and 7), in several animal pain models measured at several post operative time points. The nerve injury pain models represented are the Spinal segmental nerve injury (Chung), Chronic Constriction Injury (CCI) and Spared Nerve Injury (SNI) models at time points
10 3, 7, 21 and 40 days. The inflammatory model represented is intraplantar Complete Freund's Adjuvant (CFA) injection in to the hind paw at 0.5, 1, and 5 days post injection. The tissue are lumbar DRGs and dorsal horn (i.e two tissues four models, 4 time points (3 for CFA) = 30 different pain comparisons each in triplicate each compared against the appropriate control.

Table 3 shows polynucleotide sequences of the present invention which have been
15 established as being differentially expressed by at least 1.4 fold, but which have not attained a statistical significance of p<0.05 according to the triplicate analysis scheme shown in Tables 6 and 7. The polynucleotide sequence shown in Table 3, however, are considered to be "differentially expressed" according to the present invention, despite the fact that the triplicate analysis has not established a significance of p<0.05.

20 Table 4 shows polynucleotides of the present invention which are upregulated by at least 1.4 fold in a rat inflammation pain model as indicated by either or both of the Intensity Ratio Naïve/SNI or Affymetrix Ratio data column, and which have not been previously suggested to be involved in the cellular response to pain.

Table 5 shows polynucleotides of the present invention which are downregulated by at
25 least 1.4 fold in a rat inflammation pain model as indicated by either or both of the Intensity Ratio Naïve/SNI or Affymetrix Ratio data column, and which have not been previously suggested to be involved in the cellular response to pain. The data in tables 4 and 5 represents an average of the Intensity Ratios and Affymetrix Ratios obtained from inflammation pain models at 3 hours, 6 hours, 12 hours, 24 hours, 48 hours and 5 days following induction of inflammation.

Table 10 shows a subset of the polynucleotides and polypeptides of the Tables 1-5 above, which are differentially expressed in the DH and/or DRG in at least two of the neuropathic pain models selected from spared nerve injury (SNI), chronic constriction injury (CCI), and the CHUNG model. For inclusion in Table 10, the gene had to show two consecutive significant 5 incidents of differential regulation, one of which had to reach the fold threshold. According to the invention, a gene which is differentially expressed in more than one pain model is much more likely to have a general role in pain.

Table 11 shows a subset of the genes of Table 10 which are highly regulated in pain. The genes of Table 10 were selected based on their coordinate regulation in either the DRG or DH 10 and for which, based on the known or deduced function of the gene (e.g., as a transmembrane receptor), have been determined by the invention to have a role in the production or modulation of pain by changing the properties, excitability, structure and/or connectivity of neurons in pain pathways. Accordingly, reference to the genes (polynucleotides or polypeptides) of Tables 1-5 of the invention, necessarily encompasses the genes set forth in Tables 10 and 11. According to 15 the invention, of the genes which are differentially expressed as described herein, the genes of Table 10 is a preferred set of differentially expressed genes useful for screening, treatment, and pain modulation as described below. More preferred for screening assays, treatment, and pain modulation according to the invention, is the set of genes indicated in Table 11.

As indicated in the tables of the invention, the column labeled "% homology" indicates 20 the percent identity between the human and rat (or mouse if the rat sequence is not available) sequences. In some cases, the polynucleotide sequence indicated in Table 2, 3, 4, or 5 is an EST sequence. Accordingly, the column labeled "former identifier" indicates the accession number 25 of the gene sequence having the closest homology, as determined by a BLAST search, to the EST sequence. The column labeled "identifier" in conjunction with the columns labeled "description" and "protein type" indicate the function of the proteins encoded by the polynucleotides of Tables 1, 2, 3, 4, or 5 and specifically indicated in Tables 2, 3, 4, or 5. The column labeled "subcellular localization" indicates the known location of the protein encoded by 30 the polynucleotide sequences noted in the Table in specific compartments in the cell. Accordingly, those proteins which are indicated in the Table as being secreted may be useful, as described below, as protein drugs for modulating the activity of one or more proteins indicated in

the table, or for treating pain as described herein. Similarly, proteins which are indicated as being integral membrane proteins may be cell surface receptors, and may be screened against candidate compounds to identify compounds which regulate their activity as described below. The columns labeled “rat gene SEQ ID No.”, “rat protein SEQ ID No.”, “human gene SEQ ID No.”, and “human protein SEQ ID No.” in Tables 2-3 indicates the SEQ ID No. corresponding to the sequence identified by the corresponding accession number.

In addition to the polynucleotides indicated in Tables 1, 2, 3, 4, or 5, the scope of the invention further includes variations, and/or mutations in the polynucleotide sequences, including SNPs and other conservative variants that do not alter the functionality of the encoded 10 polypeptide, including sequences having at least 30% homology with the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5, but encoding a protein having the equivalent function to the protein encoded by the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5. The present invention further encompasses the human homologs to the polynucleotide sequences indicated in Tables 1, 2, 3, 4, or 5, and the polypeptide sequences encoded thereby. The 15 invention still further encompasses the polypeptide sequences encoded by the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5. The Accession no. for the polypeptide sequence is shown in Tables 2, 3, 4, or 5 (the protein accession number is not indicated for Table 1, as all of these genes are known in the art). The present invention also encompasses a variant, domain, epitope, or fragment of the polypeptide molecules indicated in Tables 1, 2, 3, 4, or 5, provided 20 that the variant, domain, epitope, or fragment has an equivalent function to that of the polypeptide indicated in Tables 1, 2, 3, 4, or 5 (i.e., the function for the proteins indicated in Tables).

Table 1. Genes Which are Known to be Differentially Regulated in Pain

Category	Descriptions	Rat Gene	Axotomy			Spared Nerve Injury		
			Naive intensity	Axotomy intensity	Fold change	NI Intensity	SNL Intensity	Fold change
GPCR Receptors	$\alpha 2$ -adrenergic receptor	M62372	#	#		#	#	
	$\alpha 2$ -C4 adrenergic receptor	X57659	#	#		(+)	(+)	
	Angiotensin II receptor type 1 (AT1)	M74054	#	#		#	#	
	Angiotensin II receptor type 2 (AT2)	D16840	#	#		#	#	
	Bradykinin B1 receptor	AJ132230	++	(++)		(+)	(+)	
	Bradykinin B2 receptor	X80187	#	#		#	#	
	Cholecystokinin-B receptor	M99418	#	(+)		(+)	(+)	
	Galanin receptor type 1	U30290	#	#		#	#	
	Galanin receptor type 2	U94322	#	#		#	#	
	NPY receptor type 1 (NPY-Y1)	Z11504	+	(+)		-	-	
	μ opioid receptor (MOR)	S7763	#	#		#	#	
	δ opioid receptor (DOR)	U00475	#	#		#	#	
	GABA-A receptor $\alpha 2$ subunit	L08491	++	++		++	++	
	GABA-A receptor $\gamma 2$ subunit	L08497	(+)	#		-	-	
Ligand-gated Ion channel Receptors	P2X3 receptor	X90651	++	+++		++	++	
	Vanilloid receptor 1	AF029310	++	(++)		++	++	
	p75 (low affinity nerve growth factor receptor)	U25650	#	#		-	-	
	GFRA1 (RET ligand 1)	U97142	++	++		-	-	
	GFRA2 (RET ligand 2)	U97143	++	++		-	-	
Tyrosine Kinase Receptors	TrkA (trk precursor)	M85214	+++	+++		-	-	
	p75 (low affinity nerve growth factor receptor)	D10938	+	(+)		-	-	
	GFRA1 (RET ligand 1)	M11596	++	(+)		-	-	
	GFRA2 (RET ligand 2)	M11597	+++	+++		-	-	
	TrkA (trk precursor)	X01032	#	#		-	-	
Cytokines/Growth Factors/Neuropeptides	Brain-derived neurotrophic factor	M22427	#	#		-	-	
	β -type calcitonin gene-related peptide	M98820	#	#		-	-	
	α -type calcitonin gene-related peptide	M26745	#	#		-	-	
	Cholecystokinin precursor	J03624	#	++++		-	-	
	Basic fibroblast growth factor	E03082	(+)	#		-	-	
	Galanin	M15880	+	+++		-	-	
	Interleukin 1- β	X80290	++	++		-	-	
	Interleukin 6	M25890	++	++		-	-	
	Nerve growth factor	X56306	++	++		-	-	
	Neuropeptide Y	E02468	#	#		-	-	
	Pituitary adenylate cyclase activating peptide(PACAP)	X52820	(+)	#		-	-	
	Somatostatin	M98049	#	(++)		-	-	
	Substance P (δ -preprotachykinin)	Y00766	++	++		(++)	(+)	
	Tumor necrosis factor	X12589	+++	+++		++	++	
	Islet Amyloid Polypeptide(IAPP)							
	Pancreatitis-associated protein (Reg-2)							
Ion channels	Brain sodium channel III							
	Voltage-dependent potassium channel protein							

Table 1. Genes Which are Known to be Differentially Regulated in Pain

Category	Descriptions	Rat Gene	Spared Nerve Injury			Known Axotomy		
			Ni Intensity	SNI Intensity	Fold change	Ni Intensity	SNI Intensity	Fold change
	Voltage-gated sodium channel (SNS) Calcium channel α -2 subunit (CCH1.2A)	X92:84 M86621	++ ++	++ +++	++ ++	++ ++	+++ +++	++ ++
	Voltage-gated Na channel α subunit (NaN)	AF059030	+++ +++	++ +++	++ ++	+++ +++	+++ +++	++ ++
Cell cytoskeleton	Cyttoplasmic β -actin GAP-43 Glial fibrillary acidic protein Heavy neurofilament polypeptide (NF-H) Neurofilament protein middle (NF-M) Light molecular-weight neurofilament (NF-L) Peripherin α -tubulin Tubulin Muscle LIM protein	V01217 L21192 AF028784 X13804 Z12152 AF031880 AF031878 V012227 AB015946 X811193	++++ +++ +++ +++ +++ +++ +++ +++ +++ #	++ ++ ++ ++ ++ ++ ++ ++ ++ (+)	++ +++ +++ +++ +++ +++ +++ +++ +++ #	↑(19,40) ↑(19,11) ↑(60) ↓(19,59,48) ↓(19,39,48) ↓(19,59,48) ↑(19,59,48) ↑(19,31,43) ↑(46)	++ +++ +++ +++ +++ +++ +++ +++ +++ #	++ +++ +++ +++ +++ +++ +++ +++ +++ #
Transcription factors	Leucine zipper protein (ATF3) c-jun jun-D	M63282 X17163 D26307	++ # #	+++ # #	++ ++	↑(35) ↑(27,14,35) ↑(27,14,35)	++ # +	++ ++
Cell surface/ Extracellular matrix	Epididymal glycoprotein (AEG) H36- α -7 integrin α -chain 140-kD NCAM Neural cell adhesion molecule L1 Neuropilin Ninjurin1	M31173 X65036 X06564 X59149 AF016296 U72660	# +++ +++ +++ +++ #	(+) +++ (+) +++ +++ ++	# # # # # #	↑(46) ↑(38) ↑(13) NC (69) ↑(23) ↑(4)	# # # # # #	# # # # # #
Enzymes	Neuronal nitric oxide synthase	U67309	#	#	#	↑(21,24)	#	#
Cell death / Survival	Bax- α Bcl-2 Bcl-xlong Manganese-containing superoxide dismutase(MnSOD) Heat shock protein 27 Copper-zinc containing superoxide dismutase Cutaneous fatty acid-binding protein	U59184 L14680 U34963 Y00497 M86389 M21060 S69874	++++ (+) + ++ ++++ ++++ ++++	+++ ++ ++ ++ ++++ ++++ ++++	++ + + ++ ++ ++ ++	NC (19,35,36) ↓(23,1) ↓(26) ↑(19,50) ↑(12) NC (19,50) ↑(13)	++ ++ ++ ++ ++ ++ ++	++ + + ++ ++ ++ ++
Metabolism								

KEY
 NC = no change
 - = < 1.4 fold
 ▲ = 1.4 < 2 fold
 ▲▲ = 2 < 5 fold
 ▲▲▲ = > 5 fold
 () = present only on 1 chip
 # = below detection
 + = 100 - 1000
 ++ = 1000 - 5000
 +++ = 5000 - 10,000
 +++; = >10,000

Table 2.

Rat gene	Rat gene SEQ ID NO:	Rat Protein SEQ ID NO:	Rat protein SEQ ID NO:	Human Genes	Human gene SEQ ID NO:	Human Protein	Human gene SEQ ID NO:	% homolo gy	Identifier	Former Identifier	Descriptions	Subcellular Localization	Protein Type
A09811	1	CAA00863	2	XM_002636	3	XP_002636	4	80	BRL-3A binding protein		A09811cds R.norvegicus mRNA for BRL-3A		
AA1082	5	NP_038587	6	AB003334	7	Q92558	8	89	Mus musculus heat shock protein, 105 kDa (Hsp105)	NM_013559	AA108277 EST0020 Rat lambda ZAPII library (C.P.Hamel) Rattus norvegicus cDNA clone pCO100 5 similar to Heat shock protein (hsp-E71), mRNA sequence [Rattus norvegicus]		
AA1082	9	NP_038587	10	AB003334	11	Q92558	12	89	Mus musculus heat shock protein, 105 kDa (Hsp105)	NM_013559	AA108277 EST0020 rat lambda ZAPII library (C.P.Hamel) Rattus norvegicus cDNA clone pCO100 5 similar to Heat shock protein (hsp-E71), mRNA sequence [Rattus norvegicus]		
AA6845	13	NP_079592	14	AF047181	15	O43674	16	86.41	Mus musculus NADH dehydrogenase (ubiquinone) 1 beta subcomplex 5 (Ndufb5), mRNA	NM_025316	AA684537 EST104685 Rat PC-12 cells, untreated Rattus sp. cDNA clone RPCAA05 5 end similar to NADH-ubiquinone oxidoreductase SGDH subunit, mRNA sequence [Rattus sp.]		
AA6850	17	AAH06660	18	NM_005006	19	P28331	20		NADH dehydrogenase (ubiquinone) Fe-S protein 1 (75kD) (Listed is rat EST and mouse hypothetical protein)		AA686031 EST109008 Rat PC-12 cells, NGF treated (9 days) Rattus sp. cDNA clone RPNA84 5 end similar to NADH-ubiquinone oxidoreductase 75 kDa subunit, mRNA sequence [Rattus sp.]		

Table 2.

AA6865 79	21	AAC39 959	22	XM_02803 0	XP_028 030	Mus musculus ubiquitin- homology domain protein (Ubl1)	AF033353	AA686579 EST110738 Rat PC-12 cells, NGF treated (9 days) Rattus sp. cDNA clone RPNBL48 5 end similar to Ubiquitin-like protein NEDD-8, mRNA sequence [Rattus sp.]	"Sarcoplasmic/e ndoplasmic reticulum membrane ATPase 2 (EC 3.6.3.8)(Calcium pump 2) (SERCA2) (SR Ca(2+)-ATPase 2) (Calcium- transporting ATP ase sarcoplasmic reticulum type, slow twitch skeletal muscle isoform"
AA6865 79	23	AAC39 959	24	XM_02803 0	XP_028 030	Mus musculus ubiquitin- homology domain protein (Ubl1)	AF033353	AA686579 EST110738 Rat PC-12 cells, NGF treated (9 days) Rattus sp. cDNA clone RPNBL48 5 end similar to Ubiquitin-like protein NEDD-8, mRNA sequence [Rattus sp.]	"Sarcoplasmic/e ndoplasmic reticulum membrane ATPase 2 (EC 3.6.3.8)(Calcium pump 2) (SERCA2) (SR Ca(2+)-ATPase 2) (Calcium- transporting ATP ase sarcoplasmic reticulum type, slow twitch skeletal muscle isoform"
AA7932 76	25	P11507	26	M23114	27	P16815	28	91.03	Ca+2-ATPase J04023
AA7933 36	29	BAB268 40	30	NM_0050 03	31	O14561	32	95.09	Homo sapiens NADH dehydrogenase 1, alpha/beta subcomplex 1 (Listed is rat EST and mouse putative protein)
AA7933 36	36								AA79336 EST188833 Rattus norvegicus cDNA, 5 end /clone=RHEAA38 /clone_end=5 /gb=AA79336 /gi=2862291 /ug=Rn.1318 /len=599

Table 2.

AA7993 89	33	Q63941	34	XM_00150 1	XP_001 501	95	Rab3B protein 1	NM_03109 1	AA799389 EST188886 Rattus norvegicus cDNA, 5' end /clone=RHEAA70 /clone_end=5 /gb=AA799389 /gi=2862344 /ug=Rn.3788 /len=588	Ras-related protein Rab-3B.	
AA8014 41	35	P43035	36	L13385	37	P43034	38	95.62	platelet-activating factor acetylhydrolase beta subunit	AF016049 AA801441 EST190938 Rattus norvegicus cDNA, 5' end /clone=RSPAA71 /clone_end=5 /gb=AA801441 /gi=2864396 /ug=Rn.5827 /len=520	
AA9331 81	39	BAB606 86		NM_0143 33	40	NP_055 148	41	Mus musculus Siggsf mRNA for spermatozeni c immunoglobuli n superfamily protein	AB052293 AA933181 ESTPIM-2MF Rat Brain, Stratagene (cat.#936501) Rattus norvegicus cDNA clone pUC18/P1M-2MF 5', mRNA sequence [Rattus norvegicus]		
AA9440 73	42	P28751	43	BCC014383	44	P28751	45	89.52	R.norvegicus mRNA for ribosomal protein L41	X82550 AA944073 EST199572 Rattus norvegicus cDNA, 5' end /clone=REMAA79 /clone_end=5 /gb=AA944073 /gi=3103989 /ug=Rn.2833 /len=480	60S ribosomal protein L41 (HG12).
AB0000 98	46	BAA243 51	47	BFF90363	48	No Human Protein Found.	85	MIPPP65	AB000098 Rattus norvegicus mRNA for MIPPP65, complete cds /cds=(18,1394) /gb=AB000098 /gi=2780407 /ug=Rn.6452 /len=1468		
AB0000 98	49	BAA243 51	50	BFF90363	51	XP_009 784	85	MIPPP65	AB000098 Rattus norvegicus mRNA for MIPPP65, complete cds /cds=(18,1394) /gb=AB000098 /gi=2780407 /ug=Rn.6452 /len=1468		

Table 2.

AB000098	52	BAA243	53	BF690363	54	No Human Protein Found.	85	MIP65	AB000098 Rattus norvegicus mRNA for MIP65, complete cds /cds=(18,1394) /gb=AB000098 /gi=2780407 /ug=Rn.6452 /len=1468
AB000098	55	BAA243	56	BF690363	57	XP_009784	85	MIP65	AB000098 Rattus norvegicus mRNA for MIP65, complete cds /cds=(18,1394) /gb=AB000098 /gi=2780407 /ug=Rn.6452 /len=1468
AB000216	58	BAA199	59	AA281565	60	CAB432	61	CCA3	AB000216 Rat mRNA for CCA3, complete cds /cds=(413,3442) /gb=AB000216 /gi=2104557 /ug=Rn.11149 /len=4514
AB000929	62	BAA244	63	M90366	64	Q05996	65	84.38 Zona pellucida 2 glycoprotein	AB000929 Rattus norvegicus mRNA for zona pellucida 2 glycoprotein, complete cds /cds=(19,2106) /gb=AB000929 /gi=2804567 /ug=Rn.10891 /len=2138
AB002111	66	O88177	67	U91521	68	O00623	69	87.27 peroxisome assembly factor-3 (PAF-3)	AB002111 Rattus norvegicus mRNA for peroxisome assembly factor-3 (PAF-3), complete cds
AB003515	70	O08765	71	NM_007285	72	O08765	73	100 GEF-2	AB003515 Rat mRNA for GEF-2, complete cds /cds=(106,459) /gb=AB003515 /gi=2104569 /ug=Rn.3714 /len=963
AB0039	74	BAA201	75	XN_04565	75	XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039	76	BAA201	77	XN_04565	75	XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039	78	BAA201	79	XN_04565	75	XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039	80	BAA201	81	XN_04565	5	XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039	82	BAA201	83	XN_04565	5	XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039	84	BAA201	85	XN_04565	5	XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039	86	BAA201	87	NM_003081	88	P13795	89	100 SNAP-25B	AB003992 Rat mRNA for SNAP-25B, complete cds
AB0039	90	BAA201	91	NM_003081	92	P13795	93	100 SNAP-25B	AB003992 Rat mRNA for SNAP-25B, complete cds

Table 2.

AB0040	94 96	BAA203 54	95	U23942	96	Q16850	97	89	Lanosterol 14-demethylase	AA963449	AB004096 Rat DNA for lanosterol 14-demethylase /cds=(126,1637) /gb=AB004096 /gi=2190005 /ug=Rn.6150 /len=3083
AB0040	98 96	BAA203 54	99	U23942	100	Q16850	101	89	Lanosterol 14-demethylase	AB004096 Rat DNA for lanosterol 14-demethylase /cds=(126,1637) /gb=AB004096 /gi=2190005 /ug=Rn.6150 /len=3083	
AB0040	102 96	BAA203 54	103	U23942	104	Q16850	105	89	Lanosterol 14-demethylase	AA963449	AB004096 Rat DNA for lanosterol 14-demethylase /cds=(126,1637) /gb=AB004096 /gi=2190005 /ug=Rn.6150 /len=3083
AB0040	106 96	BAA203 54	107	U23942	108	Q16850	109	89	Lanosterol 14-demethylase	AB004096 Rat DNA for lanosterol 14-demethylase /cds=(126,1637) /gb=AB004096 /gi=2190005 /ug=Rn.6150 /len=3083	
AB0042	110 76	BAA203 59	111 20	NM_0189	112 743	NP_061	113 4	66	protocadherin	AB004276 Rat mRNA for protocadherin 4, complete cds	
AB0042	114 77	BAA203 60	115 29	NM_0189	116 752	NP_061	117 5	72	Protocadherin	AB004277 Rat mRNA for protocadherin 5, partial cds	
AB0042	118 77	BAA203 60	119 29	NM_0189	120 752	NP_061	121 5	72	Protocadherin	AB004277 Rat mRNA for protocadherin 5, partial cds	
AB0068	122 02	BAA220 78	123 14	NM_0189	124 737	NP_061	125 6, partial cds	75	Protocadherin	AB006802 Rattus rattus mRNA for protocadherin 6, partial cds	
AB0068	126 81	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.			PMF16		AB006881 mRNA Rattus norvegicus mRNA for PMF16	
AB0076	127 90	BAA324 79	128	BCC02109	129	XP_054 356	130 11	91.3 Vest-2(delta 1)		AB007690 Rattus norvegicus mRNA for Vest-2(delta 1), complete cds	
AB0085	131 21	BAA233 68	132 9	XM_00311	133 119	XP_003 119	134 61	dynein light intermediate chain 53/55		AB008521 Rattus norvegicus mRNA for dynein light intermediate chain 53/55, partial cds	
AB0085	135 38	BAA232 79	136 27	NM_0016	137 Q13740		138 89	HB2		AB008538 Rattus norvegicus mRNA for HB2, complete cds /cds=(188,1939) /gb=AB008538 /gi=2589006 /ug=Rn.5789 /len=2966	
AB0088	139 07	BAA342 17	140 32	NM_0048	141 P78417		142 71	glutathione-dependent dehydroascorbate reductase		AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds	

Table 2.

AB0088 07	143 17	BAA342 17	144 32	NM_0048 32	145 P78417	146 150	71 71	glutathione- dependent dehydroascor- bate reductase	AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds
AB0088 07	147 17	BAA342 17	148 32	NM_0048 32	149 P78417	150 154	71 71	glutathione- dependent dehydroascor- bate reductase	AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds
AB0088 07	151 17	BAA342 17	152 32	NM_0048 32	153 P78417	154 154	71 71	glutathione- dependent dehydroascor- bate reductase	AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds
AB0094 63	155 31	BAA323 31	156 49	NM_0198 49	157 BAA323 30	158 162	92.31 92.31	LRp105 LRp105	AB009463 Rattus norvegicus mRNA for LRp105, complete cds
AB0094 63	159 31	BAA323 31	160 49	NM_0198 49	161 BAA323 30	162 166	92.31 85.9	LRp105 Phosphoinositide 3-kinase de 3-kinase	AB009463 Rattus norvegicus mRNA for LRp105, complete cds
AB0096 36	163	O70173	164	AJ000008	165 O75747	166 166	85.9 85.9	Phosphoinositid e 3-kinase	AB009636 Rattus norvegicus mRNA for phosphoinositide 3-kinase, complete cds (cds=(110_4627) /gb=AB009636 /gi=3059226 /ug=Rn.14870 /len=5956
									Membrane- associated. Phosphatidylino- sitols 3-kinase C2 domain- containing gamma polypeptide(EC 2.7.1.137) (Phosphoinositi de 3-Kinase-C2- gamma) (PtdIns- 3-kinaseC2 gamma) (PI3K- C2gamma).

Table 2.

AB0099 99	167	O35052	168	U65887	169	Q92903	170	86.11	CDP- diacylglycerol synthase	AB00999 Rattus norvegicus mRNA for CDP- diacylglycerol synthase, complete cds	Integral membrane protein. CYTOPLAS MIC ASPECT OF THE ENDOPLAS MIC RETICULUM
AB0099 99	171	O35052	172	U65887	173	Q92903	174	86.11	CDP- diacylglycerol synthase	AB00999 Rattus norvegicus mRNA for CDP- diacylglycerol synthase, complete cds	Integral membrane protein. CYTOPLAS MIC ASPECT OF THE ENDOPLAS MIC RETICULUM

Table 2.

AB0099 99	175	O35052	176	U65887	177	Q92903	178	86.11	CDP- diacylglycerol synthase	AB00999 Rattus norvegicus mRNA for CDP- diacylglycerol synthase, complete cds	Integral membrane protein . CYTOPLAS MIC ASPECT OF THE ENDOPLAS MIC RETICULUM
AB0099 99	179	O35052	180	U65887	181	Q92903	182	86.11	CDP- diacylglycerol synthase	AB00999 Rattus norvegicus mRNA for CDP- diacylglycerol synthase, complete cds	Integral membrane protein . CYTOPLAS MIC ASPECT OF THE ENDOPLAS MIC RETICULUM
AB0101 54	183	BAA363 62	184	AF387637	185	P27448	186	31	Rattus norvegicus sbk mRNA for serine/threonine kinase with SH3 ligand, expressed in hippocampus, complete cds	AB010154 Rattus norvegicus PKN mRNA for serin/threonine protein kinase expressed in hippocampus, partial cds	

Table 2.

AB0104 67	187	O88563	188	AK000791	189	O15438	190	92.66	Rattus norvegicus mRNA for multidrug resistance- associated protein (MRP)- like protein-2, (MLP-2), complete cds	AB010467 Rattus norvegicus mRNA for multidrug resistance-associated protein (MRP)-like protein-2 (MLP-2), complete cds	Integral membrane protein.	Canalicular multispecific organic anion transporter 2 (Multidrugresist- ance-associated protein 3) (MRP- like protein-2) (MLP-2).
AB0107 43	191	P56500	192	AF011449	193	P55916	194	90.26	UCP2	AB010743 Rattus norvegicus mRNA for UCP2, complete cds /cds=(344,1273) /gb=AB010743 /gi=3062842 /ug=Rn.13333 /len=1575	Integral membrane protein.	Mitochondrial uncoupling protein 2 (UCP 2).
AB0109 60	195	BAA248 32	196	AB010961	197	BAA248 33	198	86	MIFR	AB010960 Rattus norvegicus mRNA for MIFR, complete cds	Integral membrane protein.	Mitochondrial inner membrane.
AB0109 60	199	BAA248 32	200	AB010961	201	BAA248 33	202	86	Rattus norvegicus mRNA for MIFR, complete cds	AB010960 Rattus norvegicus mRNA for MIFR, complete cds	Integral membrane protein.	Mitochondrial inner membrane.
AB0113 69	203	Q62921	204	NM_0312	205	Q9BYM 8	206	79	RBCK2	AB011369 Rattus norvegicus mRNA for RBCK2, complete cds	Ubiquitin conjugating enzyme 7 interacting protein 3 (RBCC proteininteractin g with RKC).	Ubiquitin conjugating enzyme 7 interacting protein 3 (RBCC proteininteractin g with RKC).
AB0115 28	207	BAA324 59	208	AB011536	209	XP_042 739	210	88.35	MEGF2	AB011528 Rattus norvegicus mRNA for MEGF2, complete cds	Ubiquitin conjugating enzyme 7 interacting protein 3 (RBCC proteininteractin g with RKC).	Ubiquitin conjugating enzyme 7 interacting protein 3 (RBCC proteininteractin g with RKC).
AB0115 28	211	BAA324 59	212	AB011536	213	XP_042 739	214	88.35	MEGF2	AB011528 Rattus norvegicus mRNA for MEGF2, complete cds	Ubiquitin conjugating enzyme 7 interacting protein 3 (RBCC proteininteractin g with RKC).	Ubiquitin conjugating enzyme 7 interacting protein 3 (RBCC proteininteractin g with RKC).
AB0116 79	215	P05218	216	AF070561	217	P20071	218	95	class I beta- tubulin	AB011679 Rattus norvegicus mRNA for class I beta-tubulin, complete cds	Class I beta tubulin. Tubulin beta-5 chain.	Class I beta tubulin. Tubulin beta-5 chain.

Table 2.

AB0122	219	P70257	220	U18759	221	Q14938	222	100	NF1-X1, partial cds	Y07688	AB012234 Rattus norvegicus mRNA for NF1- X1, partial cds /cds=(0..535) /gb=AB012234 /gi=2982735 /ug=Rn..9647 /len=601
AB0122	223	P70257	224	U18759	225	Q14938	226	100	NF1-X1, partial cds	Y07688	AB012234 Rattus norvegicus mRNA for NF1- X1, partial cds /cds=(0..535) /gb=AB012234 /gi=2982735 /ug=Rn..9647 /len=601
AB0131	227	BAA336	228	NM_020980	229	O43315	230	75	Aquaporin	AB013112 Rattus rattus mRNA for aquaporin, complete cds	AB013454 Rattus norvegicus mRNA for NaPi- 2 beta, complete cds
AB0134	231	P24049	232	X53777	233	P18621	234	99	R.norvegicus ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22		60S ribosomal protein L17 (L23) (Amino acid starvation- induced protein) (ASI).
AB0137	235	O70199	236	AJ007702	237	O60701	238	89.76	UDP-glucose dehydrogenase e	AB013732 Rattus norvegicus mRNA for UDP- glucose dehydrogenase, complete cds /cds=(110..1591) /gb=AB013732 /gi=3133256 /ug=Rn..39637 /len=2318	UDP-glucose dehydrogenase (EC 1.1.1.22) (UDPGC dehydrogenase) (UDPGC DH) (UDPGDH).
AB0147	239	BAA36584	240	AI133253	241	CAA74694	242	91.96	rSALT-1(806),	AB014722 Rattus norvegicus mRNA for rSALT-1(806), complete cds	
AB0147	242	BAA36584	243	AI133253	244	CAA74694	245	91.96	rSALT-1(806),	AB014722 Rattus norvegicus mRNA for rSALT-1(806), complete cds	
AB0151	245	NP_071950	246	S82449	247	Q9UQ21	248	86.21	Rhesus blood group	NM_022250 AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds	
AB0151	249	NP_071950	250	S82449	251	Q9UQ21	252	86.21	Rhesus blood group	NM_022250 AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds	
AB0159	253	Q9Z31046	254	BC000619	255	P23258	256	92.57	Rattus norvegicus mRNA for tubulin, complete cds	AB015946 Rattus norvegicus mRNA for tubulin, complete cds	Centrosome . Tubulin gamma- 1 chain (Gamma-1 tubulin) (Gamma-tubulin complexcompon- ent 1) (GCP-1).

Table 2.

AB0161 61	257	Q9Z0U 4	258	AJ225028	259	Q9UBS5	260	97	Gamma- aminobutyric acid (GABA) B receptor, 1	AB016161cds Rattus norvegicus mRNA for GABAB receptor 1d, complete cds	"Gamma- aminobutyric acid type B receptor, subunit 1 precursor COEXPRES- SION OF GABA-B-R1 AND GABA- B-R2 B-Receptor 1) (GABA-B-R1) (Gb1)." APPEARS TO BE A PREREQUIS- ITE FOR MATURATIO- N AND TRANSPOR- T OF GABA- B-R1 TO THE PLASMA MEMBRANE.
AB0161 61	261	Q9Z0U 4	262	AJ225028	263	Q9UBS5	264	97	Gamma- aminobutyric acid (GABA) B receptor, 1	AB016161UTR#1 Rattus norvegicus mRNA for GABAB receptor 1d, complete cds	"Gamma- aminobutyric acid type B receptor, subunit 1 precursor COEXPRES- SION OF GABA-B-R1 AND GABA- B-R2 B-Receptor 1) (GABA-B-R1) (Gb1)." APPEARS TO BE A PREREQUIS- ITE FOR MATURATIO- N AND TRANSPOR- T OF GABA- B-R1 TO THE PLASMA MEMBRANE.

Table 2.

AB0168 00	265	BAA343 06	266	XM_00606 7	XP_006 067	82	7-dehydrocholesterol reductase	AB01680 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds	
AB0168 00	267	BAA343 06	268	XM_00606 7	XP_006 067	82	7-dehydrocholesterol reductase	AB01680 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds	
AB0168 00	269	BAA343 06	270	XM_00606 7	XP_006 067	82	7-dehydrocholesterol reductase	AB01680 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds	
AB0168 00	271	BAA343 06	272	XM_00606 7	XP_006 067	82	7-dehydrocholesterol reductase	AB01680 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds	
AB0171 70	273	BAA351 87	274	AB017167	275	BAA351 84	276	Rattus norvegicus mRNA for Slit-1 protein, partial cds	AB01710 Rattus norvegicus mRNA for Slit-1 protein, partial cds
AB0175 44	277	BAA368 35	278	AF045186	279	O75381	280	peroxisomal membrane anchor protein	AB01754 Rattus norvegicus Pex14 mRNA for peroxisomal membrane anchor protein, complete cds
AB0175 44	281	BAA368 35	282	AF045186	283	O75381	284	peroxisomal membrane anchor protein	AB01754 Rattus norvegicus Pex14 mRNA for peroxisomal membrane anchor protein, complete cds
AB0175 44	285	BAA368 35	286	AF045186	287	O75381	288	peroxisomal membrane anchor protein	AB01754 Rattus norvegicus Pex14 mRNA for peroxisomal membrane anchor protein, complete cds
AB0175 44	289	BAA368 35	290	AF045186	291	O75381	292	peroxisomal membrane anchor protein	AB01754 Rattus norvegicus Pex14 mRNA for peroxisomal membrane anchor protein, complete cds
AB0176 55	293	P10980	294	NM_0007 39	295	NP_000 730	296	Muscarinic receptor m2	AB01765 Rattus norvegicus mRNA for muscarinic receptor m2, complete cds
								Integral membrane protein.	Muscarinic acetylcholine receptor M2.

Table 2.

AB0177 11	297	O88828	298	NM_0219 74	299	P41584	300	90.98 RNA polymerase II	90.98 RNA polymerase II, complete cds	AB017711 <i>Rattus norvegicus</i> mRNA for RNA polymerase II, complete cds	Nuclear. DNA-directed RNA polymerase II 14.4 kDa polypeptide (EC 2.7.7.6)(RPB6) (RPB14.4).
AB0179 12	301	O70436	302	U66018	303	Q15796	304	91.46 Smad2 protein	AB017912 <i>Rattus norvegicus</i> mRNA for Smad2 protein, complete cds	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4 .	Mothers against decatenaplegic homolog 2 (SMAD 2) (Mothers againstDPP homolog 2) (Mad-related protein 2).
AB0179 12	305	O70436	306	U66018	307	Q15796	308	91.46 Smad2 protein	AB017912 <i>Rattus norvegicus</i> mRNA for Smad2 protein, complete cds	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4 .	Mothers against decatenaplegic homolog 2 (SMAD 2) (Mothers againstDPP homolog 2) (Mad-related protein 2).
AB0179 12	309	O70436	310	U66018	311	Q15796	312	91.46 Smad2 protein	AB017912 <i>Rattus norvegicus</i> mRNA for Smad2 protein, complete cds	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4 .	Mothers against decatenaplegic homolog 2 (SMAD 2) (Mothers againstDPP homolog 2) (Mad-related protein 2).

Table 2.

AB0179 12	313	O70436	314	U68018	315	Q15796	316	91.46 Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND, MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4 .	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers againstDPP homolog 2) (Mad-related protein 2).
AB0193 93	317	Q9R1J4	318	U85257	319	Q99972	320	82.95 myocilin	AB019393 Rattus norvegicus mRNA for myocilin, complete cds	"LOCATED PREFERENTIALLY IN THE CILIARY ROOTLET AND BASAL BODY OF THE CONNECTING CILIUM OF PHOTORECEPTOR CELLS, AND IN THE ROUGH ENDOPLASMIC RETICULUM ALSO SECRETED "	Myocilin precursor (Trabecular meshwork-induced glucocorticoid response protein).
AB0205 04	321	BAA347 15	322	AY008274	323	No Human Protein Found.	324	96.34 PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds		
AB0205 04	325	BAA347 15	326	AY008274	327	No Human Protein Found.	328	96.34 PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds		

Table 2.

AB0205 04	329 15	BAA347 15	330 AY008274	331 No Human Protein Found.	332 96.34 PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds
AB0205 04	333 15	BAA347 15	334 AY008274	335 No Human Protein Found.	336 96.34 PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds
AB0220 14	337 Q9Z2X3	338 AB009619	339 O75832	340 92.68 Gankyrin homologue, complete cds	AB022014 Rattus norvegicus mRNA for gankyrin homologue, complete cds	26S proteasome non-ATPase regulatory subunit 10 (26S proteasome-regu latory subunit p28) (Gankyrin).
AF0001 14	P97846 342	U87223 343	P78357 344	88.14 Contactin associated protein 1	AF000114 Rattus norvegicus paranodin mRNA, complete cds /cds=(141,4286) /gb=AF000114 /gi=2228764 /ug=Rn.10703 /len=5550	Type I membrane protein . Contactin associated protein 1 precursor (Caspr) (Caspr1) (Neurexin 4)(Neurexin IV) (p190) (Paranodin).
AF0001 14	P97846 346	U87223 347	P78357 348	88.14 Contactin associated protein 1	AF000114 Rattus norvegicus paranodin mRNA, complete cds /cds=(141,4286) /gb=AF000114 /gi=2228764 /ug=Rn.10703 /len=5550	Type I membrane protein . Contactin associated protein 1 precursor (Caspr) (Caspr1) (Neurexin 4)(Neurexin IV) (p190) (Paranodin).
AF0003 68	AAB504 03	X82835 350	351 S54771	352 87.67 Rattus norvegicus voltage-gated sodium channel mRNA (PN1)	AF000368 Rattus norvegicus voltage-gated sodium channel mRNA, complete cds /cds=(0,5954) /gb=AF000368 /gi=2501837 /ug=Rn.10831 /len=9316	

Table 2.

AF0003 68	353	AAB504 03	354	X82835	355	S54771	356	87.67	Rattus norvegicus voltage-gated sodium channel mRNA (PN1)	AF000368 Rattus norvegicus voltage-gated sodium channel mRNA, complete cds /cds=(0,5554) /gb=AF000368 /gi=2501837 /ug=Rn.10831 /len=9316	
AF0004 23	357	O08835	358	D38522	359	Q9BT88	360	93.38	synaptotagmin XI	AF000423 Rattus norvegicus synaptotagmin XI mRNA, complete cds /cds=(242,1534) /gb=AF000423 /gi=2130631 /ug=Rn.9805 /len=2426	Synaptotagmin XI (SytXI).
AF0008 99	361	AAC82 319	362	XM_03752 9	XP_037 529			p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end	INTEGRAL MEMBRANE PROTEIN SYNAPTIC VESICLES.	
AF0008 99	363	AAC82 319	364	XM_03752 9	XP_037 529			p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		
AF0008 99	365	AAC82 319	366	XM_03752 9	XP_037 529			p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		
AF0008 99	367	AAC82 319	368	XM_03752 9	XP_037 529			p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		
AF0009 42	369	P41138	370	X66924	371	Q02535	372	88.38	Inhibitor of DNA binding 3, dominant negative helix- loop-helix protein	AF000942 Rattus norvegicus Id3a mRNA, complete cds	Nuclear. DNA-binding protein inhibitor ID-3.
AF0014 17	373	O35819	374	U44975	375	Q99612	376	71	zinc finger protein	AF001417 Rattus norvegicus zinc finger protein mRNA, complete cds	Nuclear . Core promoter element-binding protein (Kruppel- like factor 6)(Transcription factor Zf9).
AF0019 53	377	AAB599 74								AF001953 Rattus norvegicus G protein beta 5 subunit mRNA, partial cds	

Table 2.

AF0019 53	381	AAB599 74	382	AF300650	383	O14775	384	99	G protein beta 5 subunit	AF001953 <i>Rattus norvegicus</i> G protein beta 5 subunit mRNA, partial cds
AF0022 51	385	AAB718 21	386	AK056568	387	NP_113 625	388	91.04	Mapx1	AF002251 <i>Rattus norvegicus</i> Mapx1 mRNA, complete cds /cds=(128,1369) /gb=AF002251 /gi=2459832 /ug=Rn.10824 /len=3471
AF0022 81	389	AAC16 671	390	AF039018	391	XP_003 374	392	86.54	alpha-actinin-2 associated LIM protein	AF002281 <i>Rattus norvegicus</i> alpha-actinin-2 associated LIM protein mRNA, complete cds /cds=(99,1187) /gb=AF002281 /gi=3138921 /ug=Rn.13361 /len=1586
AF0038 25	393	AAD09 310	394	U93703	395	O00451	396	91	GDNF receptor-beta	AF003825 <i>Rattus norvegicus</i> GDNF receptor- beta mRNA, partial cds
AF0038 35	397	O35760	398	NM_0184 70	399	NP_004 499	400	90.83	Isopentenyl- diphosphate delta isomerase	AF003835 <i>Rattus norvegicus</i> isopentenyl diphosphate-dimethylallyl diphosphate isomerase mRNA, complete cds /cds=(385,1068) /gb=AF003835 /gi=2253700 /ug=Rn.10780 /len=1182
AF0040 17	401	AAC40 034	402	AF053753	403	AAG477	404	99.97	Solute carrier family 4, sodium bicarbonate cotransporter, member 4	AF004017 <i>Rattus norvegicus</i> electrogenic Na+ bicarbonate cotransporter (NBC) mRNA, complete cds /cds=(23,3130) /gb=AF004017 /gi=2897074 /ug=Rn.11114 /len=3449
AF0040 17	405	AAC40 034	406	AF053753	407	AAG477	408	99.97	Solute carrier family 4, sodium bicarbonate cotransporter, member 4	AF004017 <i>Rattus norvegicus</i> electrogenic Na+ bicarbonate cotransporter (NBC) mRNA, complete cds /cds=(23,3130) /gb=AF004017 /gi=2897074 /ug=Rn.11114 /len=3449
AF0042 18	409	AAD01 198	410	U75283	411	NP_005 857	412	89.59	Rattus norvegicus brain sigma receptor	AF004218 <i>Rattus norvegicus</i> brain sigma receptor mRNA, complete cds
AF0048 11	413	P31977	414	M69066	415	P26038	416	91.07	Moesin	AF004811 <i>Rattus norvegicus</i> moesin mRNA, complete cds /cds=(98,1831) /gb=AF004811 /gi=2218138 /ug=Rn.10773 /len=2099

Table 2.

AF006664	417	O35767	418	U34962	419	P52952	420	87	Rattus norvegicus timman homolog (rNKx-2.5) mRNA, complete cds	Nuclear . AF006664 Rattus norvegicus timman homolog (rNKx-2.5) mRNA, complete cds /cds=(93,1049) /gb=AF006664 /gi=2246649 /ug=Rn.6179 /len=1342 (Homeoboxprotein CSX).	Homeobox protein NKX-2.5 (Cardiac-specific homeobox) (Homeoboxprotein CSX).
AF006664	421	O35767	422	U34962	423	P52952	424	87	Rattus norvegicus timman homolog (rNKx-2.5) mRNA, complete cds	Nuclear . AF006664 Rattus norvegicus timman homolog (rNKx-2.5) mRNA, complete cds /cds=(93,1049) /gb=AF006664 /gi=2246649 /ug=Rn.6179 /len=1342 (Homeoboxprotein CSX).	Homeobox protein NKX-2.5 (Cardiac-specific homeobox) (Homeoboxprotein CSX).
AF007554	425	922534	44	X52228	426	Q16615	427	87.68	Mucin1	Nuclear . AF007554 Rattus norvegicus mucin 1 (Muc1) mRNA, partial cds /cds=(0,224) /gb=AF007554 /gi=2253443 /ug=Rn.10779 /len=447	Homeobox protein NKX-2.5 (Cardiac-specific homeobox) (Homeoboxprotein CSX).
AF007554	428	O35167	429	NM_080539	430	Q9NP24	431	90.29	Collagen-like tail subunit (single strand of homotrimer) of asymmetric acetylcholinesterase	Nuclear . AF007554 Rattus norvegicus acetylcholinesterase-associated collagen (COLQ) mRNA, complete cds /cds=(45,1421) /gb=AF007583 /gi=2564193 /ug=Rn.10841 /len=2731	Homeobox protein NKX-2.5 (Cardiac-specific homeobox) (Homeoboxprotein CSX).
AF007558	432	P37377	433	L36674	434	P37840	435	94.49	Synuclein 1	Nuclear . AF007558 Rattus norvegicus synuclein 1 mRNA, complete cds /cds=(27,449) /gb=AF007758 /gi=2218253 /ug=Rn.1827 /len=1006	Alpha-synuclein.
AF007558	436	P37377	437	L36674	438	P37840	439	94.49	Synuclein 1	Nuclear . AF007558 Rattus norvegicus synuclein 1 mRNA, complete cds /cds=(27,449) /gb=AF007758 /gi=2218253 /ug=Rn.1827 /len=1006	Alpha-synuclein.
AF007836	440	AAB66703	441	AB002338	442	BAA207	443	95.92	Rim1b protein	Nuclear . AF007836 Rattus norvegicus rim1b protein mRNA, alternatively spliced, complete cds /cds=(414,5075) /gb=AF007836 /gi=2317777 /ug=Rn.10799 /len=5655	Alpha-synuclein.

Table 2.

AF007890	444	AAC23	445	NM_000365	446	P00938	447	49	Rattus nonvegicus resection-induced TPI (rs11) mRNA, complete cds			
AF008439	448	O54902	449	AB004857	450	P49281	451	89.74	natural resistance-associated macrophage protein 2	AF008439 Rattus norvegicus natural resistance-associated macrophage protein 2 (Nramp2) mRNA, complete cds /cds=(104,1789) /gb=AF008439 /gi=2327066 /ug=Rn.11418 /len=4331	Integral membrane protein .	Natural resistance-associated macrophage protein 2 (NrAMP 2) (Metalion transporter DCT1).
AF008439	452	O54902	453	AB004857	454	P49281	455	89.74	natural resistance-associated macrophage protein 2	AF008439 Rattus norvegicus natural resistance-associated macrophage protein 2 (Nramp2) mRNA, complete cds /cds=(104,1789) /gb=AF008439 /gi=2327066 /ug=Rn.11418 /len=4331	Integral membrane protein .	Natural resistance-associated macrophage protein 2 (NrAMP 2) (Metalion transporter DCT1).
AF0085454	456	O35777	457	AK027632	458	AAB183	459	91.29	Rattus nonvegicus implantation-associated protein (IAG2) mRNA, partial cds	AF008554 Rattus norvegicus implantation-associated protein (IAG2) mRNA, partial cds /cds=(0,926) /gb=AF008554 /gi=2258450 /ug=Rn.10782 /len=1087	Integral membrane protein .	Implantation-associated protein .
AF0085454	460	O35777	461	AK027632	462	AAB183	463	91.29	Rattus nonvegicus implantation-associated protein (IAG2) mRNA, partial cds	AF008554 Rattus norvegicus implantation-associated protein (IAG2) mRNA, partial cds /cds=(0,926) /gb=AF008554 /gi=2258450 /ug=Rn.10782 /len=1087	Integral membrane protein .	Implantation-associated protein .

Table 2.

AF0093 29	464	O35779	465	NM_0307	466	Q9C0J9	467	67	enhancer-of- split and hairy- related protein 1	AF009329 Rattus norvegicus enhancer-of- split and hairy-related protein 1 (SHARP-1) mRNA, complete cds /cds=(237,998) /gb=AF009329 /gi=2267586 /ug=Rn.10784 /len=3101	Nuclear .	Class B basic helix-loop-helix protein 3 (bHLH3) (Enhancer-of- split and hairy- related protein 1) (SHARP-1).
AF0093 30	468	O35780	469	NM_0036	470	O14503	471	80	Rattus norvegicus enhancer-of- split and hairy- related protein 2 (SHARP-2) mRNA	AF009330 Rattus norvegicus enhancer-of- split and hairy-related protein 2 (SHARP-2) mRNA, complete cds /cds=(319,1554) /gb=AF009330 /gi=2267588 /ug=Rn.10785 /len=2388	Nuclear .	Class B basic helix-loop-helix protein 2 (bHLH2) (Enhancer-of- split and hairy- related protein 2) (SHARP-2).
AF0096 03	472	O35179	473	NM_0030	474	Q99962	475	97	SH3p4 mRNA, partial cds	AF009603 Rattus norvegicus SH3p4 mRNA, partial cds /cds=(0,746) /gb=AF009603 /gi=2293467 /ug=Rn.10787 /len=1103	Nuclear	SH3-containing GRB2-like protein 2 (SH3 domain protein 2A) (Endophilin 1) (SH3p4) (Fragment).
AF0131 44	476	O54838	477	NM_0044	478	Q16690	479	87.8	Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds	AF013144 Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds /cds=(174,1328) /gb=AF013144 /gi=2746069 /ug=Rn.10877 /len=2436	Nuclear .	Dual specificity protein phosphatase 5 (EC 3.1.3.48) (EC 3.1.3.16)(MAP- kinase phosphatase CPG21).
AF0131 44	480	O54838	481	NM_0044	482	Q16690	483	87.8	Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds	AF013144 Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds /cds=(174,1328) /gb=AF013144 /gi=2746069 /ug=Rn.10877 /len=2436	Nuclear .	Dual specificity protein phosphatase 5 (EC 3.1.3.48) (EC 3.1.3.16)(MAP- kinase phosphatase CPG21).

Table 2.

AF0140 09	484	O35244	485	D14662	486	P30041	487	89.11	acidic calcium- independent phospholipase A2 (aiPLA2)	AF014009 Rattus norvegicus acidic calcium- independent phospholipase A2 (aiPLA2) mRNA, complete cds /cds=(20,694) /gb=AF014009 /gi=Rn.42 /len=856	"CYTOPLAS- MIC, LYSOSOMA- L AND ALSO FOUND IN LUNG SECRETOR Y ORGANEL- LES." selenium glutathione peroxidase) (EC 1.11.1.7) (NSGPx) (Thiol- specifican	Antioxidant protein 2 (1-Cys peroxiredoxin) (1-Cys PRX) (Acidic calcium- independent phospholipase A2) (EC 3.1.1.-) (aiPLA2) (Non- selenium glutathione peroxidase) (EC 1.11.1.7) (NSGPx) (Thiol- specifican
AF0145 03	488	O54842	489	NM_0123 85	490	O60356	491	63	p8 mRNA	AF014503 Rattus norvegicus p8 mRNA, complete cds /cds=(54,296) /gb=AF014503 /gi=2735928 /ug=Rn.11182 /len=592	Nuclear	Protein p8 (Candidate of metastasis 1).
AF0153 04	492	O54698	493	U81375	494	Q99808	495	87.65	Solute carrier family 29 (nucleoside transporters), member 1	AF015304 Rattus norvegicus equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter mRNA, complete cds /cds=(4,1377) /gb=AF015304 /gi=26556136 /ug=Rn.5814 /len=1786	Integral membrane protein.	"Equilibrative nucleoside transporter 1 (Equilibrativenit obenzylmercapt opurine riboside- sensitive nucleoside transporter)(Equ ilibrative NBMPR- sensitive nucleoside transporter)(Nucleosidetrans porter,"

Table 2.

AF0153 05	496	O54699	497	AF034102	498	Q14542	499	67	Equilibrative nitrobenzylthio- inosine- insensitive nucleoside transporter mRNA	AF015305 Rattus norvegicus equilibrative nitrobenzylthioinosine-insensitive nucleoside transporter mRNA, complete cds (cds=(157,1527) /gb=AF015305 /gi=2656138 /ug=Rn.7203 /len=1678	Integral membrane protein.	Equilibrative nucleoside transporter 2 (Equilibrativenit obenzylmercapt opurine riboside- insensitive nucleoside transporter)(Equ librative NBMPR- insensitive nucleoside transporter) (Nucleosidetrans port
AF0157 19	500	P97604	501	Y09908	502	P40933	503	85.37	Interleukin-15 (IL-15)	AF015719 Rattus norvegicus interleukin-15 (IL-15) mRNA, complete cds	Secreted.	Interleukin-15 precursor (IL- 15).
AF0160 47	504	O35263	505	D63391	506	Q15102	507	90.12	platelet- activating factor acetylhydrolase alpha 1 subunit	AF016047 Rattus norvegicus platelet- activating factor acetylhydrolase alpha 1 subunit (PAF-AH alpha 1) gene, complete cds (cds=(0,698) /gb=AF016047 /gi=2501856 /ug=Rn.17971 /len=699	Cytoplasmic	Platelet- activating factor acetylhydrolase IB gamma subunit(CE 3.1.1.47) (PAF acetylhydrolase 29 kDa subunit) (PAF-AH 29 kDa subunit) (PAF-AH gamma subunit) (PAFAH gamma subunit) (Platelet- activating f

Table 2.

AF0162 52	508	O35274	509	BC016162	510	NP_115 984	511	98	Spinophilin	AF016252 Rattus norvegicus Spinophilin mRNA, complete cds /cds=(513,2966) /gb=AF016252 /gi=2462850 /ug=Rn.6764 /len=4505	ENRICHED AT SYNAPSE AND CADHERIN-BASED CELL-CELL ADHESION SITES.	Neurabin-II (Neural tissue-specific F-actin binding protein II)(Protein phosphatase 1 regulatory subunit 9B) (Spinophilin) (p130)(PP1bp13-4).
AF0163 87	512	AAD01 591	513	NM_0069 17	514	P48443	515	97	retinoid X receptor gamma (RXRgamma)	AF016387 Rattus norvegicus retinoid X receptor gamma (RXRgamma) mRNA, partial cds		
AF0163 87	516	AAD01 591	517	NM_0069 17	518	P48443	519	97	retinoid X receptor gamma (RXRgamma)	AF016387 Rattus norvegicus retinoid X receptor gamma (RXRgamma) mRNA, partial cds		
AF0174 37	520	AAB702 73	521	NM_0017 77	522	Q08722	523	62	Integrin-associated protein	AF017437 Rattus norvegicus integrin-associated protein form 4 (IAP) mRNA, complete cds /cds=(110,966) /gb=AF017437 /gi=2394317 /ug=Rn.10723 /len=1183		
AF0174 37	524	AAB702 73	525	NM_0017 77	526	Q08722	527	62	Integrin-associated protein	AF017437 Rattus norvegicus integrin-associated protein form 4 (IAP) mRNA, complete cds /cds=(110,966) /gb=AF017437 /gi=2394317 /ug=Rn.10723 /len=1183		
AF0182 61	528	AAC33 823	529	NM_0133 33	530	XP_034 403		89.54	EH domain binding protein Epsin	AF018261 Rattus norvegicus EH domain binding protein Epsin mRNA, complete cds		
AF0190 43	531	Q08877	532	AF000430	533	JC5695	534	100	Rattus norvegicus dynamin-like protein DLP1 isoform DLP1-37 mRNA, complete cds	AF019043 Rattus norvegicus dynamin-like protein (DLP1) mRNA, complete cds /cds=(737,3004) /gb=AF019043 /gi=2425051 /ug=Rn.10830 /len=3345		
AF0196 28	535	Q63563	536	AK056519	537	XP_016 813		86.54	Sulfonyleurea receptor 2B mRNA	AF019628 Rattus norvegicus sulfonyleurea receptor 2B mRNA, complete cds	Integral membrane protein.	Sulfonyleurea receptor 2.

Table 2.

AF0202 10	538 35	AAB712 5	539 5	XM_05017 175	XP_050 175	83	DLP1 splice variant 4	AF020210 Rattus norvegicus DLP1 splice variant 4 (DLP1) mRNA, partial cds
AF0202 10	540 35	AAB712 5	541 5	XM_05017 175	XP_050 175	83	DLP1 splice variant 4	AF020210 Rattus norvegicus DLP1 splice variant 4 (DLP1) mRNA, partial cds
AF0202 12	542 37	AAB712 62	543 62	NM_0120 544	NP_036 192	72	DLP1 splice variant 2 (DLP1)	AF020212 Rattus norvegicus DLP1 splice variant 2 (DLP1) mRNA, partial cds
AF0206 18	546 980	AAC24 7	547 7	XM_00909 548	XP_009 097	34	Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds	AF020618 Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds
AF0206 18	550 980	AAC24 7	551 7	XM_00909 552	XP_009 097	34	Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds	AF020618 Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds
AF0207 12	554 858	AAD11 37	555 37	NM_0041 556	Q16558 557	82	Maxi potassium channel beta subunit	AF020712 Rattus norvegicus Maxi potassium channel beta subunit mRNA, complete cds (cds=(313,888) /gb=AF020712 /gi=2444423 /ug=Rn:10820 /len=1267
AF0219 23	558	O54701 559	AF177987 560	Q9UJ40 561	90.38	Potassium- dependent sodium- calcium exchanger	AF021923 Rattus norvegicus potassium- dependent sodium-calcium exchanger (NCX2) mRNA, complete cds (cds=(148-2160) /gb=AF021923 /gi=2662460 /ug=Rn:10859 /len=9942	Integral membrane protein. Sodium/potassi- um/calcium exchanger 2 precursor (Na ⁺ /K ⁺ /Ca ²⁺ -) -exchange protein 2) (Retinal cone Na-Ca+K exchanger).

Table 2.

AF0227 42	562 23	AAB809 563	X05495 564	P07204 565	68	Thrombomodulin precursor gene, promoter region and partial cds	AF022742cds Rattus norvegicus thrombomodulin precursor gene, promoter region and partial cds
AF0228 19	566 336	AAD09 567	U33632 568	O00180 569	90.19	Rattus norvegicus putative potassium channel TmIK mRNA	AF022819 Rattus norvegicus putative potassium channel TmIK mRNA, complete cds
AF0236 57	570 25	AAB869 571	NM_0246 41	NP_078 917	88	endo-alpha-D- mannosidase (Enman)	AF023657 Rattus norvegicus endo-alpha-D- mannosidase (Enman) mRNA, complete cds /cds=(88,1443) /gb=AF023657 /gi=2642186 /ug=Rn.108555 /len=2852
AF0253 08	574 85	AAB822 575	No human homolog found.	No Human Protein Found.		MHC class Ib antigen (RT1.CI)	AF025308 Rattus norvegicus MHC class Ib antigen (RT1.CI) gene, complete cds /cds=(0,1133) /gb=AF025308 /gi=2570820 /ug=Rn.11244 /len=1134
AF0265 04	576 26	AAB815 577	AC004974 578	AAC831 79	81	SPA-1 like protein p1294	AI237576 Rattus norvegicus SPA-1 like protein p1294 mRNA, complete cds /cds=(733,6201) /gb=AF026504 /gi=2555182 /ug=Rn.10835 /len=600
AF0265 05	580 27	AAB815 581	AF396457 582	NP_066 547	98.19	SH3- containing protein p4015	AA891194 Rattus norvegicus SH3-containing protein p4015 mRNA, complete cds /cds=(680,4270) /gb=AF026505 /gi=2555184 /ug=Rn.10836 /len=631
AF0265 05	584 27	AAB815 585	AF396457 586	NP_066 547	98.19	Rattus norvegicus SH3- containing protein p4015	AF026505 Rattus norvegicus SH3-containing protein p4015 mRNA, complete cds /cds=(680,4270) /gb=AF026505 /gi=2555184 /ug=Rn.10836 /len=631
AF0265 29	588 589	O35414 AJ303455	590	Q9H169 591	95.19	Stathmin-like- protein RB3	AF026529 Rattus norvegicus stathmin-like- protein splice variant RB3 mRNA, complete cds /cds=(1120,650) /gb=AF026529 /gi=2585992 /ug=Rn.5658 /len=1305 /ug=Rn.5658 /len=1305
							Stathmin 4 (Stathmin-like protein B3) (RB3).

Table 2.

AF0265 54	592	O70247	593	AL096737	594	Q9Y299	595	90.48	Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds	AF026554 Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds /cds=(412,2316) /gb=AF026554 /gi=3015616 /ug=Rn.11105 /len=3075	Integral membrane protein.	Sodium- dependent multivitamin transporter (Na(+)- dependent multi- vitamin transporter).
AF0265 54	596	O70247	597	AL096737	598	Q9Y299	599	90.48	Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds	AF026554 Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds /cds=(412,2316) /gb=AF026554 /gi=3015616 /ug=Rn.11105 /len=3075	Integral membrane protein.	Sodium- dependent multivitamin transporter (Na(+)- dependent multi- vitamin transporter).
AF0275 71	600	Q9QW0 7	601	L41349	602	Q15147	603	91.97	Phospholipase C , beta4	AF027571 Rattus norvegicus phospholipase C-beta 4 isoform (PLC-b4) mRNA, partial cds	"1- phosphatidylino- sitol-4,5- bisphosphate phosphodiester ase beta 4(EC 3.1.4.11) (PLC- beta-4) (Phospholipase C-beta-4)." "C-beta-4."	
AF0292 40	604	931500 54		M20022	605	P29401	606	62	Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) mRNA, partial cds	AF029240 Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) gene, complete cds /cds=(0,1091) /gb=AF029240 /gi=3150053 /ug=Rn.14674 /len=2553		
AF0292 40	607	931500 54		M20022	608	P29401	609	62	Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) mRNA, partial cds	AF029240 Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) gene, complete cds /cds=(0,1091) /gb=AF029240 /gi=3150053 /ug=Rn.14674 /len=2553		

Table 2.

AF0300 50	610	AAD01 890	611	L23320	612	AAA161 21	613	69	Replication factor C mRNA, partial cds	AF030050 Rattus norvegicus replication factor C mRNA, partial cds
AF0300 87	614	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Rat activity and neurotransmitt er-induced early gene 2 (ania-2)			AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (ania-2) mRNA, 3 UTR
AF0300 87	615	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Rat activity and neurotransmitt er-induced early gene 2 (ania-2)			AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (ania-2) mRNA, 3 UTR
AF0300 87	616	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Rat activity and neurotransmitt er-induced early gene 2 (ania-2)			AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (ania-2) mRNA, 3 UTR
AF0300 87	617	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Rat activity and neurotransmitt er-induced early gene 2 (ania-2)			AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (ania-2) mRNA, 3 UTR
AF0300 89	618	AAD43 824	619	BI598343	620	O15075	621	95	activity and neurotransmitt er-induced early gene protein 4	AF030089UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 4 (ania-4) mRNA, 3 UTR
AF0300 91	622	AAD45 558	623	AY034790	624	NP_064 703	625	93.42	Rattus norvegicus cyclin ania-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (ania-6) mRNA, 3 UTR
AF0300 91	626	AAD45 558	627	AY034790	628	NP_064 703	629	93.42	Rattus norvegicus cyclin ania-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (ania-6) mRNA, 3 UTR

Table 2.

AF0300 91	630	AAD45 558	631	AY034790	632	NP_064 703	633	93.42	Rattus norvegicus cyclin anta-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (anta-6) mRNA, 3 UTR
AF0300 91	634	AAD45 558	635	AY034790	636	NP_064 703	637	93.42	Rattus norvegicus cyclin anta-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (anta-6) mRNA, 3 UTR
AF0303 58	638	O55145	639	U84487	640	P78423	641	86.01	Rattus norvegicus chemokine CX3C mRNA, complete cds	AF030358 Rattus norvegicus chemokine CX3C mRNA, complete cds
AF0303 58	642	O55145	643	U84487	644	P78423	645	86.01	Rattus norvegicus chemokine CX3C mRNA, complete cds	AF030358 Rattus norvegicus chemokine CX3C mRNA, complete cds
AF0314 30	646	O70257	647	BCC011975	648	O15400	649	87.11	Syntaxin 7	AF031430 Rattus norvegicus syntaxin 7 mRNA, complete cds
AF0542 46	650	AAC64 920	651	NM_0200 61	652	NP_064 445	653	89	Rattus norvegicus green- sensitive opsin mRNA, partial cds	AF031528 Rattus norvegicus green-sensitive opsin mRNA, partial cds

Table 2.

AF0316 42	654 938	AAD01 NM_0071 63	655 NM_0034 25	Q15849 660	656 Q02386	657 661	64 86	Urea transporter (UT4) mRNA	AF031642 Rattus norvegicus kidney urea transporter (UT4) mRNA, complete cds
AF0316 57	658 578	AAC53 AF028824	659 O14908	662 O14908	663 O14908	664 665	87.98 Regulator of G protein signalling 19	Zinc-finger protein 94 (Zfp94) gene, partial cds	AF031657mRNA Rattus norvegicus zinc- finger protein 94 (Zfp94) gene, partial cds
AF0321 20	662 Q9Z254								CYTOPLAS MIC AND MEMBRANE- ASSOCIATE D .
AF0321 20	666 Q9Z254	667 AF028824	668 O14908	669 O14908	669 O14908	670 O14908	87.98 Regulator of G protein signalling 19	AF032120 Rattus norvegicus GLUT1 transporter C-terminal binding protein mRNA, complete cds	CYTOPLAS MIC AND MEMBRANE- ASSOCIATE D .
AF0321 20	670 Q9Z254	671 AF028824	672 O14908	673 O14908	673 O14908	674 O14908	87.98 Regulator of G protein signalling 19	AF032120 Rattus norvegicus GLUT1 transporter C-terminal binding protein mRNA, complete cds	CYTOPLAS MIC AND MEMBRANE- ASSOCIATE D .

Table 2.

AF0326 66	674 AAC01 578	675 AJ420556	676 45	CAB541 677	87.98 Rattus norvegicus rsec5 mRNA, complete cds	AF032666 Rattus norvegicus rsec5 mRNA, complete cds /cds=(1199,2973) /gb=AF032666 /gi=2827157 /ug=Rn.2869 /len=4285
AF0326 66	678 AAC01 578	679 AJ420556	680 45	CAB541 681	87.98 Rattus norvegicus rsec5 mRNA, complete cds	AF032666 Rattus norvegicus rsec5 mRNA, complete cds /cds=(1199,2973) /gb=AF032666 /gi=2827157 /ug=Rn.2869 /len=4285
AF0326 66	682 AAC01 578	683 AJ420556	684 45	CAB541 685	87.98 Rattus norvegicus rsec5 mRNA, complete cds	AF032666 Rattus norvegicus rsec5 mRNA, complete cds /cds=(1199,2973) /gb=AF032666 /gi=2827157 /ug=Rn.2869 /len=4285
AF0326 66	686 AAC01 578	687 AJ420556	688 45	CAB541 689	87.98 Rattus norvegicus rsec5 mRNA, complete cds	AF032666 Rattus norvegicus rsec5 mRNA, complete cds /cds=(1199,2973) /gb=AF032666 /gi=2827157 /ug=Rn.2869 /len=4285
AF0326 68	690 AAC01 580	691 AK002113	692 36	CAB707 693	90.6 rsec15	AF032668 Rattus norvegicus rsec15 mRNA, complete cds /cds=(340,2808) /gb=AF032668 /gi=2827161 /ug=Rn.1188 /len=3059
AF0330 27	694	JC7258	695 U93735	696 P51809	697 90.32 Synaptobrevin- like 1	AF033027 Rattus norvegicus prenylated SNARE protein Ykt6p (Ykt6) mRNA, complete cds /cds=(0,596) /gb=AF033027 /gi=2642347 /ug=Rn.11358 /len=597

Table 2.

AF0331 09	698 7	Q9Z2Q 7	699 AF036715	700 P35998	701 syntaxin 8	88 AF033109 Rattus norvegicus syntaxin 8 mRNA, complete cds	"INTEGRAL MEMBRANE PROTEIN. PREFERENT IALLY ASSOCIA TE D WITH THE EARLY ENDOSOME TO LESSER EXTENDS, ALSO PRESENT IN LATE ENDOSOME THE PLASMA MEMBRANE AND COATED PITS."	Syntaxin 8.
AF0331 09	702 7	Q9Z2Q 7	703 AF036715	704 P35998	705 syntaxin 8	88 AF033109 Rattus norvegicus syntaxin 8 mRNA, complete cds	"INTEGRAL MEMBRANE PROTEIN. PREFERENT IALLY ASSOCIA TE D WITH THE EARLY ENDOSOME TO LESSER EXTENDS, ALSO PRESENT IN LATE ENDOSOME THE PLASMA MEMBRANE AND COATED PITS."	Syntaxin 8.
AF0342 18	706 980	AAD01 707	BCC00692 708	NP_149 348	709 Hyaluronidase (Hyal2) mRNA, complete cds	82.99 AF034218 Rattus norvegicus hyaluronidase (Hyal2) mRNA, complete cds		

Table 2.

AF0342 18	710	AAD01 980	711	BCC00692	712	NP_149 348	713	82.99	Hyaluronidase	AF034218 Rattus norvegicus hyaluronidase (Hyal2) mRNA, complete cds
AF0345 82	714	AAD01 990	715	AB020712	716	BAA749 28	717	79	Vesicle associated protein (VAP1)	AF034582 Rattus norvegicus vesicle associated protein (VAP1) mRNA, complete cds
AF0345 82	718	AAD01 990	719	AB020712	720	BAA749 28	721	79	Vesicle associated protein (VAP1)	AF034582 Rattus norvegicus vesicle associated protein (VAP1) mRNA, complete cds
AF0348 99	722	JC5836	723	L35475	724	Q15062	725	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0.965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086
AF0348 99	726	JC5836	727	L35475	728	Q15062	729	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0.965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086
AF0349 00	730	AAC17 224	731	NM_0139 41	732	NP_039 229	733	57	Olfactory receptor-like protein (SCR D-7)	AF034900mRNA Rattus norvegicus olfactory receptor-like protein (SCR D-7) gene, complete cds
AF0362 55	734	O70277	735	AF220021	736	O75342	737	92.2	RING finger protein	AF036255 Rattus norvegicus RING finger protein mRNA, complete cds /cds=(220-2454) /gb=AF036255 /gi=3170008 /ug=Rn.14524 /len=2890
AF0363 35	738	AAD05 362	739	XM_05194 4		P23346	740	96	Rattus norvegicus NonO/p54ntb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54ntb homolog mRNA, partial cds /cds=(0.506) /gb=AF036335 /gi=2674208 /ug=Rn.1926 /len=1020

Table 2.

AF0363 35	741	AAD05 362	742	XM_05194 4	P23246	743	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,506) /gb=AF036335 /gi=2674208 /ug=Rn.1926 /len=1020
AF0363 35	744	AAD05 362	745	XM_05194 4	P23246	746	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,506) /gb=AF036335 /gi=2674208 /ug=Rn.1926 /len=1020
AF0363 35	747	AAD05 362	748	XM_05194 4	P23246	749	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,506) /gb=AF036335 /gi=2674208 /ug=Rn.1926 /len=1020
AF0363 35	750	AAD05 362	751	XM_05194 4	P23246	752	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,506) /gb=AF036335 /gi=2674208 /ug=Rn.1926 /len=1020
AF0363 35	753	AAD05 362	754	XM_05194 4	P23246	755	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,506) /gb=AF036335 /gi=2674208 /ug=Rn.1926 /len=1020
AF0367 61	756	AAB888 65	757	AF097514	758	O00767	759	92	stearoyl-CoA desaturase 2
AF0367 61	760	AAB888 65	761	AF097514	762	O00767	763	92	stearoyl-CoA desaturase 2
AF0367 61	764	BAA924 36	765	AF097514	766	O00767	767	83	Scd2 stearoyl- CoA desaturase 2
									AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
									AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds

Table 2.

AF0367 61	768	AAB888 65	769	AF097514	770	O00767	771	92	stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AF0367 61	772	AAB888 65	773	AF097514	774	O00767	775	92	stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AF0367 61	776	BAA924 36	777	AF097514	778	O00767	779	83	Scd2 stearoyl- CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AF0370 72	780	P14141	781	BM71311 2	782	AAH048 97	783	92.92	Carbonic anhydrase III	AF037072 Rattus norvegicus carbonic anhydrase III (CA3) mRNA, complete cds /cds=(33,815) /gb=AF037072 /gi=2708635 /ug=Rn.22519 /len=1053
AF0372 72	784	AAC40 055	785	AF169631	786	XP_007 832	787	84.08	WAP four- disulfide core domain protein (ps20)	AF037272 Rattus norvegicus WAP four- disulfide core domain protein (ps20) mRNA, complete cds /cds=(51,689) /gb=AF037272 /gi=2935295 /ug=Rn.3193 /len=1053
AF0390 85	788	O54980	789	AJ002308	790	O43760	791	87	Synaptogyrin 2	AF039085 Rattus norvegicus cellugyrin mRNA, complete cds /cds=(153,857) /gb=AF039085 /gi=2773063 /ug=Rn.8682 /len=1108
AF0395 83	792	AAC77 438	793	NM_00005 74	794	P08174	795	45	Decay- accelerating factor	AF039583 Rattus norvegicus decay accelerating factor GPI-form precursor (DAF) mRNA, complete cds
AF0395 83	796	AAC77 438	797	NM_00005 74	798	P08174	799	45	Decay- accelerating factor	AF039583 Rattus norvegicus decay accelerating factor GPI-form precursor (DAF) mRNA, complete cds
AF0395 84	800	AAC77 439	801	XM_05206 0		XP_052 060	47		Decay accelerating factor soluble- form precursor (DAF) mRNA, complete cds	AF039584 Rattus norvegicus decay accelerating factor soluble-form precursor (DAF) mRNA, complete cds

Table 2.

Table 2.

AF0477 07	838 464	AAD02 464	839 D50840	840 Q16739	841 90.11	UDP- glucose:ceram- ide glycosyltrans- ferase	AF047707 Rattus norvegicus UDP- glucose:ceramide glycosyltransferase mRNA, complete cds		
AF0477 07	842 464	AAD02 464	843 D50840	844 Q16739	845 90.11	UDP- glucose:ceram- ide glycosyltrans- ferase	AF047707 Rattus norvegicus UDP- glucose:ceramide glycosyltransferase mRNA, complete cds		
AF0486 87	846 515	AAC24 515	847 AF069054	848 Q9UBX8	849 89	UDP- Gal:glucosylce- ramide beta- 1,4- galactosyltran- sferase; beta- 1,4- galactosyltran- sferase	AF048687 Rattus norvegicus UDP- Gal:glucosylceramide beta-1,4- galactosyltransferase mRNA, complete cds		
AF0488 28	850 Q9Z2L0	851 BI493778	852 MMHUP 3	853 94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RvVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON- DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).	
AF0488 28	854 Q9Z2L0	855 BI493778	856 MMHUP 3	857 94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RvVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON- DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).	

Table 2.

AF0488 28	858	Q9Z2L0	859	BI493778	860	MMHUUP	861	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (rVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage-dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).
AF0488 28	862	Q9Z2L0	863	BI493778	864	MMHUUP	865	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (rVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage-dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).
AF0488 28	866	Q9Z2L0	867	BI493778	868	MMHUUP	869	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (rVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage-dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).

Table 2.

AF0488 28	870	Q9Z2L0	871	BI493778	872	MMHUP 3	873	94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RvDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON- DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).
AF0493 44	874	AAC69 708	875	A245539	876	AAF153 13	877	87.65	N- acetylgalacto- saminyltransfer- ase T5 mRNA	AF049344 Rattus norvegicus UDP- GalNAc:polypeptide N- acetylgalactosaminyltransferase T5 mRNA, complete cds		
AF0514 25	878	O70367	879	AB005999	880	O75829	881	85.25	Chondromodul- in-1 (Chm-1)	AF051425 Rattus norvegicus chondromodulin-1 (Chm-1) mRNA, complete cds /cds={126,1130}/gb=AF051425 /gi=2952535 /ug=Rn.9900 /len=1405	Cytoplasmic and secreted precursor Accumulated in the inter- territorial matrix of cartilage .	Chondromodulin I precursor [Contains: Chondrosulfat- antprotein (CH- SP)].
AF0515 61	882	AAC27 557	883	BEE933612	884	NP_000 329	885	91.41	Solute carrier family 12, member 2	AF051561 Rattus norvegicus Na-K-Cl cotransporter (Nkcc1) mRNA, complete cds		
AF0515 61	886	AAC27 557	887	BEE933612	888	NP_000 329	889	91.41	Solute carrier family 12, member 2	AF051561 Rattus norvegicus Na-K-Cl cotransporter (Nkcc1) mRNA, complete cds		
AF0518 95	890	AAC06 290	891	NM_0011 54	892	P08758	893	92	Lipocortin V	AF051895 Rattus norvegicus lipocortin V mRNA, partial cds		
AF0520 42	894	Q9Z2K 3	895	NM_0140 19	896	NP_115 540	897	89.47	Rattus norvegicus zinc finger protein Y1 (RLZF-Y) mRNA, complete cds	AF052042 Rattus norvegicus zinc finger protein Y1 (RLZF-Y) mRNA, complete cds	Nuclear	Zinc finger protein 94 (Zfp- 94) (Zinc finger protein Y1) (RLZF-Y).

Table 2.

AF0546 18	898 AAC08 424	899 AK023333 900	AAH087 99	901 90 contactin isoform C	AF054618 Rattus norvegicus cortactin isoform C mRNA, complete cds /cds=(0,1415) /gb=AF054618 /gi=2996043 /ug=Rn.4094 /len=1416
AF0552 92	902 AAC12 759	903 XM_04311 3	XP_043 113	90 Signal transducer and activator of transcription 6 (stat6)	AF05292mRNA Rattus norvegicus signal transducer and activator of transcription 6 (stat6) gene, partial cds
AF0587 87	904 O70453	905 D21243	906 P30519	907 93.04 Rattus norvegicus heme oxygenase-3 (HO-3) mRNA, complete cds	AF058787 Rattus norvegicus heme oxygenase-3 (HO-3) mRNA, complete cds /cds=(1061,1933) /gb=AF058787 /gi=3063688 /ug=Rn.14538 /len=2225
AF0590 30	908 AAC40 199	909 AF150882	910 NP_000 326	911 92.31 Sodium channel, voltage-gated, type XI, alpha polypeptide (SNS2)	AF059030 Rattus norvegicus voltage-gated Na channel alpha subunit NaN mRNA, complete cds
AF0612 42	912 Q9R1B 1	913 AI005112	914 Q9Y5J6	915 96.34 Fracture callus 1	AF061242 Rattus norvegicus fracture callus 1 (FxC1) mRNA, complete cds
AF0612 66	916 Q9QX0 1	917 Z73903	918 P48995	919 89.57 Trp1 beta variant mRNA	AF061266 Rattus norvegicus trp1 beta variant mRNA, complete cds
					Mitochondrial import inner membrane translocase subunit TIM9 B(Fracture callus protein 1) (FxC1),
					Integral membrane protein.
					Short transient receptor potential channel 1 (TrpC1) (TRP-1 protein)(Trp1).

Table 2.

AF0614 43	920	Q9Z2H 4	921	XM_00654 9	922	XP_006 549	923	82	G protein- coupled receptor LGR4		AF061443 Rattus norvegicus G protein- coupled receptor LGR4 (LGR4) mRNA, complete cds	Integral membrane protein.	Leucine-rich repeat- containing G protein-coupled receptor 4 precursor.
AF0617 26	924	P16259	925	BC003169	926	P20807	927	93.52	Calpain Rt88		AF061726 Rattus norvegicus muscle type calpain p94 mRNA, complete cds /cds=(66,2357) /gb=AF061726 /gi=3128956 /ug=Rn.9726 /len=23571	Cytoplasmic.	"Calpain 3 large subunit (EC 3.4.22.17) (Calpain L3) (Calpain p94, large [catalytic] subunit) (Calcium- activated neutral protease 3)(CANP 3) (Muscle-specific calcium- activated neutral protease 3 large"
AF0619 47	928	O88480	929	AB002328	930	Q9Y6J0	931	90.11	Cain mRNA		AF061947 Rattus norvegicus cain mRNA, complete cds	Cytoplasmic.	Calcineurin- binding protein Cabin 1 (Calcineurin inhibitor) (CAIN).
AF0619 47	932	O88480	933	AB002328	934	Q9Y6J0	935	90.11	Cain mRNA		AF061947 Rattus norvegicus cain mRNA, complete cds	Cytoplasmic.	Calcineurin- binding protein Cabin 1 (Calcineurin inhibitor) (CAIN).
AF0625 94	936	200810	937	AI678881	938	S40510		96.08	Nucleosome assembly protein 1-like 1		AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		

Table 2.

AF0625 94	939 9A	200810 940	AI678881 941	S40510 941	96.08 Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds
AF0625 94	942 9A	200810 943	AI678881 944	S40510 944	96.08 Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds
AF0625 94	945 9A	200810 946	AI678881 947	S40510 947	96.08 Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds
AF0625 94	948 9A	200810 949	AI678881 950	S40510 950	96.08 Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds
AF0625 94	951 9A	200810 952	AI678881 953	S40510 953	96.08 Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds
AF0627 40	954 O88483	955 AI024308	956 NP_060 914	957 93.18 pyruvate dehydrogenase phosphatase isoenzyme 1	AF062740 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 1 mRNA, complete cds	Mitochondrial ("Pyruvate dehydrogenase [Lipoamide]- phosphatase 1, mitochondrial pr ecursor (EC 3.1.3.43) (PDP 1) (Pyruvate dehydrogenase phosphatase cat alytic subunit 1) (PDPC 1)."

Table 2.

AF0627 40	958	O88483	959	AI024308	960	NP_060 914	961	93.18	pyruvate dehydrogenase phosphatase isoenzyme 1	AF062740 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 1 mRNA, complete cds	Mitochondrial matrix. "Pyruvate dehydrogenase [Lipoamide]- phosphatase 1, mitochondrialpr ecursor (EC 3.1.3.43) (PDP 1) (Pyruvate dehydrogenase phosphatase, cat alytic subunit 1) (PDPC 1)."
AF0627 41	962	O88484	963	AB037769	964	Q9P2J9	965	84.84	Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 2 mRNA, complete cds	AF062741 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 2 mRNA, complete cds	Mitochondrial matrix. "Pyruvate dehydrogenase [Lipoamide]- phosphatase 2, mitochondrialpr ecursor (EC 3.1.3.43) (PDP 2) (Pyruvate dehydrogenase phosphatase, cat alytic subunit 2) (PDPC 2)."
AF0631 02	966	T14324	967	AW23819	968	BAA345 06	969	99.28	Alpha- latrotoxin receptor, calcium- independent	AF063102 Rattus norvegicus calcium- independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds	
AF0631 02	970	T14324	971	AW23819	972	BAA345 06	973	99.28	Alpha- latrotoxin receptor, calcium- independent	AF063102 Rattus norvegicus calcium- independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds	
AF0631 02	974	T14324	975	AW23819	976	BAA345 06	977	99.28	Alpha- latrotoxin receptor, calcium- independent	AF063102 Rattus norvegicus calcium- independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds	

Table 2.

AF0631_02	978	T14324	979	AW23819	980	BAA345	981	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds
AF0631_03	982	AAC77_816	983	AF307080	984	XP_034_091	985	92.98	calcium-independent alpha-latrotoxin receptor	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds
AF0631_03	986	AAC77_816	987	AF307080	988	AAC778_16	989	92.98	calcium-independent alpha-latrotoxin receptor	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds
AF0634_47	990	AAC16_391	991	BC001009	992	AAH010_09	993	93	nuclear RNA helicase	AF063447 Rattus norvegicus nuclear RNA helicase mRNA, complete cds /cds=(99.1382)/gb=AF063447 /gi=3132828 /ug=Rn.14550 /len=1511
AF0645_41	994	P48974	995	L37112	996	P47901	997	86.98	Vasopressin V1b receptor variant	AF064541 Rattus norvegicus vasopressin V1b receptor variant mRNA, complete cds /cds=(18.389) /gb=AF064541 /gi=3142691 /ug=Rn.10096 /len=623
AF0648_68	998	AAC63_267	999	AL390162	1000	NP_065_887	1001	90.07	Brain-enriched guanylate kinase-associated protein 1	AF064868 Rattus norvegicus brain-enriched guanylate kinase-associated protein 1 mRNA, complete cds
AF0653_87	1002	O88496	1003	M81592	1004	P38435	1005	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds
										Vitamin K-dependent gamma-carboxylase (EC 6.4.-.) (Gamma-glutamylcarboxylase).

Table 2.

AF0653 87	1006	O88496	1007	M81592	1008	P38435	1009	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.) (Gamma-glutamylcarboxylase).
AF0653 87	1010	O88496	1011	M81592	1012	P38435	1013	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.) (Gamma-glutamylcarboxylase).
AF0653 87	1014	O88496	1015	M81592	1016	P38435	1017	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.) (Gamma-glutamylcarboxylase).
AF0653 87	1018	O88496	1019	M81592	1020	P38435	1021	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.) (Gamma-glutamylcarboxylase).
AF0653 87	1022	O88496	1023	M81592	1024	P38435	1025	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.) (Gamma-glutamylcarboxylase).
AF0654 38	1026	AAC17	1027	NM_005567	1028	NP_0055568	1029	68	Rattus norvegicus mama mRNA, complete cds	C07012 AF065438 Rattus norvegicus mama mRNA, complete cds /cds=(155..1879) /gb=AF065438 /gi=3152327 /ug=Rn..3251 /len=2151	

Table 2.

AF0654 38	1030	AAC17 177	1031	NM_0055 67	1032	NP_005 558	1033	68	Rattus norvegicus mama mRNA, complete cds	C07012	AF065438 Rattus norvegicus mama mRNA, complete cds /cds=(155,187) /gb=AF065438 /gi=3132927 /ug=Rn.3251 /len=2151	
AF0677 90	1034	O70489	1035	NM_0051 55	1036	Q9UMR 5	1037	80	Truncated palmitoyl- protein thioesterase (PPT-2)	AF067790 Rattus norvegicus truncated palmitoyl-protein thioesterase (PPT-2) mRNA, complete cds /cds=(113,589) /gb=AF067790 /gi=3201901 /ug=Rn.8895 /len=1024	Lysosomal . Palmitoyl- protein thioesterase 2 precursor (EC 3.1.2.22) (Palmitoyl- protein hydrolase 2) (PPT-2).	
AF0688 60	1038	O89117	1039	NM_0052 18	1040	Q09753	1041	50	Beta defensin- 1	AF068860 Rattus norvegicus beta defensin-1 mRNA, complete cds	Beta-defensin 1 precursor (BD- 1) (RBD-1).	
AF0695 25	1042	P97570	1043	AL136710	1044	A55575	1045	93.5	Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds	AF069525 Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds /cds=(84,5372) /gb=AF069525 /gi=3202045 /ug=Rn.236 /len=6184		
AF0697 75	1046	AAC21 580	1047	AF002246	1048	AAB609 37	1049	90	Rattus norvegicus L1- like cell adhesion molecule (CALL) mRNA	AF069775 Rattus norvegicus L1-like cell adhesion molecule (CALL) mRNA, partial cds		
AF0712 25	1050	AAC25 590	1051	NM_0009 42	1052	P23284	1053	87	Cyclophilin B	AF071225 Rattus norvegicus cyclophilin B mRNA, complete cds		
AF0714 95	1054	AAC23 892	1055	NM_0055 05	1056	NP_005 496	1057	73	pneumocyte CD36-related class B scavenger receptor (SRB1R)	AF071495 Rattus norvegicus type II pneumocyte CD36-related class B scavenger receptor (SRB1R) mRNA, complete cds		

Table 2.

AF0724 11	1058	Q07969	1059	BCC008406	1060	P16671	1061	84.46 fatty acid translocase/C D36 mRNA	AF072411 Rattus norvegicus fatty acid translocase/CD36 mRNA, complete cds	Integral membrane protein.	Platelet glycoprotein IV (GP1IV) (GP1IIb) (CD36 antigen) (PAS IV) (PAS-4 protein) (Fatty acid transport protein) (Fatty acid translocase)(Adipocyte membrane protein).
AF0724 11	1062	Q07969	1063	BCC008406	1064	P16671	1065	84.46 fatty acid translocase/C D36 mRNA	AF072411 Rattus norvegicus fatty acid translocase/CD36 mRNA, complete cds	Integral membrane protein.	Platelet glycoprotein IV (GP1IV) (GP1IIb) (CD36 antigen) (PAS IV) (PAS-4 protein) (Fatty acid transport protein) (Fatty acid translocase)(Adipocyte membrane protein).
AF0724 39	1066	O88553	1067	AK000351	1068	Q9Y6Q3	1069	86.79 Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	AF072439 Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	Nuclear .	Zinc finger protein 37 (Zfp-37).
AF0724 39	1070	O88553	1071	AK000351	1072	Q9Y6Q3	1073	86.79 Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	AF072439 Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	Nuclear .	Zinc finger protein 37 (Zfp-37).
AF0746 09	1074	AAC33 332	1075	No human homolog found.				MHC class I antigen (RT1.EC3) gene	AF074609mRNA Rattus norvegicus MHC class I antigen (RT1.EC3) gene, complete cds		

Table 2.

AF0761 83	1076 AAC31 815	1077 AL137271	1078 XP_006 499		90.23 Cytosolic sorting protein PACS-1a	AF076183 Rattus norvegicus cytosolic sorting protein PACS-1a (PACS-1) mRNA, complete cds
AF0761 83	1079 AAC31 815	1080 AL137271	1081 XP_006 499		90.23 Cytosolic sorting protein PACS-1a	AF076183 Rattus norvegicus cytosolic sorting protein PACS-1a (PACS-1) mRNA, complete cds
AF0773 54	1082 Q63617	1083 BC002526	1084 P34932	1085	93.17 Rattus norvegicus ischemia responsive 94 kDa protein (irp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (irp94) mRNA, complete cds
AF0773 54	1086 Q63617	1087 BC002526	1088 P34932	1089	93.17 Rattus norvegicus ischemia responsive 94 kDa protein (irp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (irp94) mRNA, complete cds
AF0773 54	1090 Q63617	1091 BC002526	1092 P34932	1093	93.17 Rattus norvegicus ischemia responsive 94 kDa protein (irp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (irp94) mRNA, complete cds

Table 2.

AF0773 54	1094	Q63617	1095	BCC02526	1096	P34932	1097	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (rp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (rp94) mRNA, complete cds
AF0787 79	1098	AAC68 885	1099	AW29500	1100	CAC406 96	1101	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF0787 79	1102	AAC68 885	1103	AW29500	1104	CAC406 96	1105	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF0787 79	1106	AAC68 885	1107	AW29500	1108	CAC406 96	1109	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF0787 79	1110	AAC68 885	1111	AW29500	1112	CAC406 96	1113	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds

Table 2.

AF0787 79	1114 AAC68 885	1115 7	AW29500 1116	1116 CAC406 96	1117	94.17 Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF0787 79	1118 AAC68 885	1119 7	AW29500 1120	CAC406 96	1121	94.17 Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF0798 73	1122 AAC29 484	1123 8	XM_04563 638	XP_045 638	100	splicing factor 1	AF079873 Rattus norvegicus splicing factor 1 homolog mRNA, partial cds
AF0804 68	1124 AAC79 839	1125 67	NM_0014 1126	O43826 1127	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF0804 68	1128 AAC79 839	1129 67	NM_0014 1130	O43826 1131	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds

Table 2.

AF0804 68	1132 839	AAC79 839	1133 67	NM_0014 67	1134 67	O43826 1135	1135 93	Rattus norvegicus putative glycogen storage disease type 1b protein // glucose-6- phosphatase	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF0804 68	1136 839	AAC79 839	1137 67	NM_0014 67	1138 67	O43826 1139	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF0804 68	1140 839	AAC79 839	1141 67	NM_0014 67	1142 67	O43826 1143	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF0804 68	1144 839	AAC79 839	1145 67	NM_0014 67	1146 67	O43826 1147	93	Rattus norvegicus putative glycogen storage disease type 1b protein // glucose-6- phosphatase	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF0811 44	1148 650	AAC62 650	1149 650	AL157903 96	1150 96	CAC197 1151	53	CL1AA mRNA	AF081144 Rattus norvegicus CL1AA mRNA, complete cds
AF0811 44	1152 650	AAC62 650	1153 650	No human homolog found.	No Human Protein Found.	42	CL1AA mRNA		AF081144 Rattus norvegicus CL1AA mRNA, complete cds

Table 2.

AF0811 96	1154 700	AAC79 1155	AF31853 1156	AAC796 99	1157	91.51	calcium and DAG- regulated guanine nucleotide exchange factor II	AF081196 Rattus norvegicus calcium and DAG-regulated guanine nucleotide exchange factor II mRNA, complete cds	
AF0813 65	1158 P35560	1159 NM_0002 20	1160 P48048	1161	88.17	Potassium inwardly- rectifying channel, subfamily J	AF081365 Rattus norvegicus ATP-regulated K+ channel ROMK1.1 isoform mRNA, complete cds	Integral membrane protein.	"ATP-sensitive inward rectifier potassium channel 1 (Potassium channel,inward rectifying, subfamily J, member 1) (ATP-regulated potassiumchannel ROM-K) (KAB 1) (Kir1.1)."
AF0833 30	1162 O55165	1163 XM_0 0		XP_03975 750	82	Kinesin-like protein KIF3C	AF083330 Rattus norvegicus kinesin-like protein KIF3C (KIF3C) mRNA, complete cds	Kinesin-like protein KIF3C.	
AF0841 86	1164 P16086	1165 AL10273	1166	Q13813 1167	95	Nothyroid alpha-spectrin 2	AF084186 Rattus norvegicus alpha-fodrin (A2A) mRNA, complete cds	"Spectrin alpha chain, brain (Spectrin, non- erythroid alpha chain)(Alpha-II spectrin) (Fodrin alpha chain)."	
AF0842 05	1168 AAC71 014				93.48	Rattus norvegicus serine/threonine protein kinase TAO1 mRNA	AF084205 Rattus norvegicus serine/threonine protein kinase TAO1 mRNA, complete cds		

Table 2.

AF0856 93	1172	Q9Z272	1173	BG984848	1174	NP_054 749	1175	94.93	G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase activating protein	AF085693 Rattus norvegicus G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein (GIT1) mRNA, complete cds	ARF GTPase-activating protein GIT1 (G protein-coupled receptor kinase-interactor 1).
AF0856 93	1176	Q9Z272	1177	BG984848	1178	NP_054 749	1179	94.93	G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase activating protein	AF085693 Rattus norvegicus G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein (GIT1) mRNA, complete cds	ARF GTPase-activating protein GIT1 (G protein-coupled receptor kinase-interactor 1).
AF0866 24	1180	AAC68 900	1181	AL526992	1182	AAA600 89	1183	96.05	serine threonine kinase	AF086624 Rattus norvegicus serine threonine kinase (pim-3) mRNA, complete cds	
AF0867 58	1184	AAD09 008	1185	NM_0010 46	1186	P55011	1187	80	Na-K-2Cl cotransporter (Nkcc1)	AF086758 Rattus norvegicus Na-K-2Cl cotransporter (Nkcc1) mRNA, partial cds	
AF0874 31	1188	AAC36 477	1189	XM_03522 9	1190	XP_035 229	1191	78	glycoprotein processing glucosidase I	AF087431 Rattus rattus glycoprotein processing glucosidase I mRNA, complete cds	
AF0874 31	1192	AAC36 477	1193	XM_03522 9	1194	XP_035 229	1195	78	glycoprotein processing glucosidase I	AF087431 Rattus rattus glycoprotein processing glucosidase I mRNA, complete cds	
AF0876 97	1196	AAC78 485	1197	U37707	1198	Q13368	1199	87.34	dIg 3	AF087697 Rattus norvegicus dIg 3 mRNA, partial cds	
AF0879 44	1200	AAC35 372	1201	X06882	1202	CAA299 99	1203	57	Rattus norvegicus monocyte differentiation antigen CD14 gene promoter region and partial cds	AF087944mRNA Rattus norvegicus monocyte differentiation antigen CD14 gene, promoter region and partial cds	

Table 2.

AF0901 34	1204	AAC78 073	1205	AF087693	1206	NP_004 635	1207	92.13	Rattus norvegicus lin- 7-Ba mRNA, complete cds	AF090134 Rattus norvegicus lin-7-Ba mRNA, complete cds	
AF0912 47	1208	O88944	1209	NM_0045 19	1210	O43525	1211	92.96	Rattus norvegicus potassium channel (KCNQ3)	AF091247 Rattus norvegicus potassium channel (KCNQ3) mRNA, complete cds	Integral membrane protein. KQT-like 3.
AF0915 61	1212	AAC64 584	1213	AF321237	1214	AAG452 06	1215	33	hP3 olfactory receptor	AF091561 Rattus norvegicus isolate AIV-LY1 olfactory receptor mRNA, partial cds	
AF0915 63	1216	AAC64 586	1217	AF321237	1218	AAG452 05	1219	49	Rattus norvegicus isolate QIL- LD1 olfactory receptor	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds	
AF0915 63	1220	AAC64 586	1221	AF321237	1222	AAG452 05	1223	49	Isolate QIL- LD1 olfactory receptor mRNA	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds	
AF0915 69	1224	AAC64 591	1225	AF087916	1226	AAF373 09	1227	70	Rattus norvegicus isolate HGL- SP3 olfactory receptor	AF091569 Rattus norvegicus isolate HGL- SP3 olfactory receptor mRNA, partial cds	
AF0915 70	1228	CAA68 842	1229	AF087916	1230	P30953	1231	69	Rattus norvegicus isolate HGL- SP2 olfactory receptor pseudogene, partial sequence	AF091570 Rattus norvegicus isolate HGL- SP2 olfactory receptor pseudogene, partial sequence	

Table 2.

AF0915 78	1232	AAC64 598	1233	NM_0066 37	1234	NP_006 628	1235	47	Rattus norvegicus isolate EVA- TN1 olfactory receptor mRNA, partial cds	AF091578 Rattus norvegicus isolate EVA- TN1 olfactory receptor mRNA, partial cds
AF0918 34	1236	AAC61 595	1237	NM_0061 78	1238	P46459	1239	100	N- ethylmaleimid e sensitive factor NSF	AF091834 Rattus norvegicus N- ethylmaleimide sensitive factor NSF mRNA, partial cds
AF0918 34	1240	AAC61 595	1241	NM_0061 78	1242	P46459	1243	100	N- ethylmaleimid e sensitive factor NSF	AF091834 Rattus norvegicus N- ethylmaleimide sensitive factor NSF mRNA, partial cds
AF0924 50	1244	Q9R237	1245	AF007134	1246	Q9UQF2	1247	90.85	Rattus norvegicus JIP-1b mRNA, complete cds	AF092450 Rattus norvegicus JIP-1 related protein (JRP) mRNA, complete cds

Table 2.

AF0925 23	1248	O88884	1249	BC000729	1250	Q92667	1251	44	A-kinase anchor protein 84 mRNA	AF092523 Rattus norvegicus A-kinase anchor protein 84 mRNA, complete cds
										Mitochondrial outer membrane .
										"A kinase anchor protein 1, mitochondrial precursor or (Protein kinase anchoring protein 1) (PRKA) (A- kinase anchor protein 121 kDa) (AKAP121) (Dual specificity A-Kinase anchoring protein 1) (D- AKAP-1)"
AF0932 68	1252	AAC71 032	1253	Y17829	1254	NP_004 263	1255	94.46	Homer-1c	AF093268 Rattus norvegicus homer-1c mRNA, complete cds
AF0935 76	1256	AAC64 408	1257	AB000520	1258	BAA225 14	1259	85.26	APS protein	AF093576 Rattus norvegicus APS protein mRNA, complete cds
AF0957 41	1260	AAC64 190	1261	AK000612	1262	XP_054 663	1263	84.37	MG87	AF095741 Rattus norvegicus MG87 mRNA, complete cds
AF0957 41	1264	AAC64 190	1265	AK000612	1266	XP_054 663	1267	84.37	MG87	AF095741 Rattus norvegicus MG87 mRNA, complete cds
AF0959 27	1268	AAC97 497	1269	AK055417	1270	NP_110 395	1271	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds
AF0959 27	1272	AAC97 497	1273	AK055417	1274	NP_110 395	1275	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds
AF0959 27	1276	AAC97 497	1277	AK055417	1278	NP_110 395	1279	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds
										AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds

Table 2.

AF096835	1284	Q9Z1Z1	1285	AF110146	1286	Q9NZJ5	1287	92.98	Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA, complete cds	Type I membrane protein. Endoplasmic reticulum.	Eukaryotic translation initiation factor 2 alpha kinase 3 precursor(EC 2.7.1.-) (PRKR-like endoplasmic reticulum kinase) (PancreaticelF2-alpha kinase).
AF096835	1288	Q9Z1Z1	1289	AF110146	1290	Q9NZJ5	1291	92.98	Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA, complete cds	Type I membrane protein. Endoplasmic reticulum.	Eukaryotic translation initiation factor 2 alpha kinase 3 precursor(EC 2.7.1.-) (PRKR-like endoplasmic reticulum kinase) (PancreaticelF2-alpha kinase).
AF097593	1292	Q9Z1Y3	1293	NM_001792	1294	P19022	1295	94.07	Cadherin 2, type 1, N-cadherin (neuronal)	Type I membrane protein .	Neural-cadherin precursor (N-cadherin) (Cadherin-2).
AF097593	1296	Q9Z1Y3	1297	NM_001792	1298	P19022	1299	94.07	Cadherin 2, type 1, N-cadherin (neuronal)	Type I membrane protein .	Neural-cadherin precursor (N-cadherin) (Cadherin-2).
AF097593	1300	Q9Z1Y3	1301	NM_001792	1302	P19022	1303	94.07	Cadherin 2, type 1, N-cadherin (neuronal)	Type I membrane protein .	Neural-cadherin precursor (N-cadherin) (Cadherin-2).

Table 2.

AF0975 93	1304 Q9Z1Y 3	1305 NM_0017 92	1306 P19022	1307 94.07	Cadherin 2, type 1, N- cadherin (neuronal)	AF097593 Rattus norvegicus testicular N- cadherin mRNA, complete cds	Type I membrane protein .	Neural-cadherin precursor (N- cadherin) (Cadherin-2).
AF0990 93	1308 Q99462	1309 NM_0033 42	1310 Q99462	1311 95.71	Ubiquitin- conjugating enzyme UBC7	AF099093 Rattus norvegicus ubiquitin- conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- protein ligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- protein ligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF0990 93	1312 Q99462	1313 NM_0033 42	1314 Q99462	1315 95.71	Ubiquitin- conjugating enzyme UBC7	AF099093 Rattus norvegicus ubiquitin- conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- protein ligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- protein ligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF0990 93	1316 Q99462	1317 NM_0033 42	1318 Q99462	1319 95.71	Ubiquitin- conjugating enzyme UBC7	AF099093 Rattus norvegicus ubiquitin- conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- protein ligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- protein ligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF0990 93	1320 Q99462	1321 NM_0033 42	1322 Q99462	1323 95.71	Ubiquitin- conjugating enzyme UBC7	AF099093 Rattus norvegicus ubiquitin- conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- protein ligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- protein ligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).

Table 2.

AF102552	1324	AAC78143	1325	NM_021130	1326	P05092	1327	96	Rattus norvegicus 270 kDa ankyrin G isoform mRNA, partial cds	
AF106563	1328	AAC83936	1329	AF070598	1330	Q9NP58	1331	89.06	Rattus norvegicus mRNA for ABC transporter	AF106563 Rattus norvegicus P-glycoprotein-like ATP-binding cassette transporter mRNA, complete cds
AF108405	1332	O88871	1333	AB015334	1334	O75899	1335	93.83	GABA-B R2 receptor	AF108405 Rattus norvegicus GABA-B receptor 2 mRNA, complete cds
										"Gamma-aminobutyric acid type B receptor, subunit 2 precursor (GABA-B receptor 2) (GABA-B-R2). AND GABA-B-R2 (Gb2) appears to be a prerequisite for maturation and transport of GABA-B-R1 to the plasma membrane."
AJ000556	1336	CAA04187	1337	XM_001387		XP_001387		89	Janus protein tyrosine kinase 1	AJ000556cds RNJA1 Rattus norvegicus mRNA for Janus protein tyrosine kinase 1, JAK1
AJ001029	1338	O55170	1339	BC007595	1340	P56633	1341	91.28	Sox10 protein	AJ001029 Rattus norvegicus mRNA for Sox10 protein /cds=(582,1982)/gb=AJ001029/gi=2695880/lug=Rn.10883/len=3030
AJ001290	1342	CAA04650	1343	XM_009743		XP_009743		93	Sodium myo-inositol transporter (SMIT)	AJ001290cds RNNSMIT Rattus norvegicus mRNA for sodium myo-inositol transporter (SMIT)

Table 2.

AJ0013 20	1344 CAA04 681	1345 AK058011	1346 NP_003 820	1347 91.64 Multiple PDZ domain protein	AJ001320 Rattus norvegicus mRNA for multi- PDZ domain protein /cds=(183,6347) /gb=AJ001320 /gi=2959978 /ug=Rn.6684 /len=7497
AJ0013 20	1348 CAA04 681	1349 AK058011	1350 NP_003 820	1351 91.64 Multiple PDZ domain protein	AJ001320 Rattus norvegicus mRNA for multi- PDZ domain protein /cds=(183,6347) /gb=AJ001320 /gi=2959978 /ug=Rn.6684 /len=7497
AJ0017 13	1352 T31099	1353 AK001923	1354 NP_008 832	1355 92.46 Rattus norvegicus mRNA for myosin- RhoGAP protein Myr 7	AJ001713 RNMYR7 Rattus norvegicus mRNA for myosin-RhoGAP protein Myr 7
AJ0019 29	1356 CAA05 100	1357 AF257659	1358 O43852	1359 91.5 CBP-50	AJ001929 RNAJ1929 Rattus norvegicus mRNA for of CBP-50 protein
AJ0048 58	1360 S19597	1361 X73039	1362 S34118	1363 88 SRY-box containing gene 11	AJ004858 RNAJ4858 Rattus norvegicus mRNA for Sry-related HMG-box protein Sox11
AJ0049 12	1364 Q63584	1365 X97442	1366 P49755	1367 90.23 Integral membrane protein Tmp21, I (p23)	AJ004912 RNJ004912 Rattus norvegicus mRNA for integral membrane protein Tmp21-I (p23)
AJ0050 46	1368 CAA06 313	1369 NM_0038 37	1370 O00757	1371 95 Rattus norvegicus mRNA for muscle fructose-1,6- bisphosphatase	AJ005046 RNAJ5046 Rattus norvegicus mRNA for muscle fructose-1,6- bisphosphatase
AJ0051 13	1372 CAA06 377	1373 D80000	1374 NP_006 297	1375 92.03 SMC-protein	AJ005113 RNAJ5113 Rattus norvegicus mRNA for SMC-protein Molecular characterization of a rat heterochromatin associated SMC-protein
AJ0051 13	1376 CAA06 377	1377 D80000	1378 NP_006 297	1379 92.03 SMC-protein	AJ005113 RNAJ5113 Rattus norvegicus mRNA for SMC-protein Molecular characterization of a rat heterochromatin associated SMC-protein
AJ0053 94	1380 CAA06 509	1381 BC008760	1382 P20908	1383 96 Collagen alpha 1 type V	AJ005394 RNJ005394 Rattus norvegicus mRNA for collagen alpha 1 type V

Table 2.

AJ0053 94	1384 CAA06 509	1385 BC008760	1386 P20908	1387 96	Collagen alpha 1 type V	AJ005394 RNU05394 Rattus norvegicus mRNA for collagen alpha 1 type V		
AJ0060 64	1388 O89046	1389 BC006449	1390 Q9BR76	1391 88.76	coronin-like protein	AJ006064 RNO6064 Rattus norvegicus mRNA for coronin-like protein	Coronin 1B (Coronin 2).	
AJ0060 64	1392 O89046	1393 BC006449	1394 Q9BR76	1395 88.76	coronin-like protein	AJ006064 RNO6064 Rattus norvegicus mRNA for coronin-like protein	Coronin 1B (Coronin 2).	
AJ0067 10	1396 CAA07 199	1397 AK022653	1398 NP_002 638	1399 88.58	phosphatidyl inositol 3-kinase	AJ006710 RNO6710 Rattus norvegicus mRNA for phosphatidylinositol 3-kinase		
AJ0068 55	1400 Q62910	1401 AF009039	1402 O43426	1403 89.07	Synaptosomal 1	AJ006855 RNAJ6855 Rattus norvegicus mRNA for synaptosomal	LOCALIZED MAINLY IN THE SOLUBLE FRACTION. "Synaptosomal 1 (EC 3.1.3.56) (Synaptic inositol-1,4,5- triphosphate 5- phosphatase 1)."	
AJ0069 71	1404 360	1405 CAA07 360	1406 ABC022341	1407 NP_001 339	1407 87.68	DAP-like kinase	AJ006971 RNO6971 Rattus norvegicus mRNA for DAP-like kinase	
AJ0069 71	1408 360	1409 CAA07 360	1410 ABC022341	1411 NP_001 339	1411 87.68	DAP-like kinase	AJ006971 RNO6971 Rattus norvegicus mRNA for DAP-like kinase	
AJ0070 16	1412 CAA07 417	1413 AI816111	1414 NP_003 470	1415 93.2	protein tyrosine phosphatase	AJ007016 RNO7016 Rattus norvegicus mRNA for protein tyrosine phosphatase		
AJ0072 91	1416 CAA07 434	1417 XM_04230 9	1420 XP_042 309	1421 91	CAP1 gene	AJ007291 RNO7291 Rattus norvegicus CAP1 gene		
AJ0072 91	1418 CAA07 434	1419 XM_04230 9	1420 XP_042 309	1421 91	CAP1 gene	AJ007291 RNO7291 Rattus norvegicus CAP1 gene		
AJ0076 27	1420 CAA07 586	1421 AB033108	1422 XP_035 483	1423 89.17	ELK channel 2	AJ007627 RNO7627 Rattus norvegicus mRNA for ELK channel 2		
AJ0076 32	1424 CAA07 591	1425 XM_00840 3	1426 XP_008 403	1431 61	ELK channel 3 (Potassium channel)	AJ007632 RNO7632 Rattus norvegicus mRNA for ELK channel 3, partial		
AJ0076 32	1426 CAA07 591	1427 XM_00840 3	1428 BC014858	1430 P21995	1431 72	Embigin protein	AJ009638 RNO9698 Rattus norvegicus mRNA for embigin protein	
AJ0096 98	1428 CAA08 796	1429 BC014858	1430 P21995	1435 72	Embigin protein	AJ009698 RNO9698 Rattus norvegicus mRNA for embigin protein		
AJ0096 98	1432 CAA08 796	1433 BC014858	1434 P21995	1435 72	Embigin protein	AJ009698 RNO9698 Rattus norvegicus mRNA for embigin protein		

Table 2.

AJ0116 07	1436 CAA09 722	1437 NM_0009 47	1438 P49643	1439 89	DNA polymerase alpha subunit III (primase)	AJ011607 RNO011607 Rattus norvegicus mRNA for DNA polymerase alpha subunit III (primase), partial	
AJ0116 07	1440 CAA09 722	1441 NM_0009 47	1442 P49643	1443 89	DNA polymerase alpha subunit III (primase)	AJ011607 RNO011607 Rattus norvegicus mRNA for DNA polymerase alpha subunit III (primase), partial	
AJ0126 03	1444 Q9Z1K 9	1445 U69612	1446 P78536	1447 88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein. ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metallopeptinas edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).
AJ0126 03	1448 Q9Z1K 9	1449 U69612	1450 P78536	1451 88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein. ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metallopeptinas edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).
AJ0126 03	1452 Q9Z1K 9	1453 U69612	1454 P78536	1455 88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein. ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metallopeptinas edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).

Table 2.

AJ0126 03	1456	Q9Z1K 9	1457	U69612	1458	P78536	1459	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinas edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).
AJ0126 03	1460	Q9Z1K 9	1461	U69612	1462	P78536	1463	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinas edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).
AJ0126 03	1464	Q9Z1K 9	1465	U69612	1466	P78536	1467	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinas edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).
AJ0126 03	1468	Q9Z1K 9	1469	U69612	1470	P78536	1471	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinas edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).

Table 2.

AJ0126 03	1472	Q9Z1K 9	1473	U69612	1474	P78536	1475	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metallopeptidases edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).
AJ0126 03	1476	Q9Z1K 9	1477	U69612	1478	P78536	1479	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metallopeptidases edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).
AJ0126 03	1480	Q9Z1K 9	1481	U69612	1482	P78536	1483	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metallopeptidases edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).
AJ0126 03	1484	Q9Z1K 9	1485	U69612	1486	P78536	1487	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metallopeptidases edomain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).

Table 2.

AJ0126 03	1488	Q9Z1K 9	1489	U69612	1490	P78536	1491	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.
AJ1322 30	1492	P97583	1493	AJ238044	1494	P46663	1495	81.38	B1 bradykinin receptor	AJ132230 RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor	Integral membrane protein.
AJ1322 30	1496	P97583	1497	AJ238044	1498	P46663	1499	81.38	B1 bradykinin receptor	AJ132230 RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor	Integral membrane protein.
AJ2233 55	211623	1501	BC015797	1502	Q9UBX3	1503	86.37	Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier (see 688)	AJ223355 RNAJ3355 Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier		
AJ2233 55	211623	1505	BC015797	1506	Q9UBX3	1507	86.37	Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier (see 688)	AJ223355 RNAJ3355 Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier		
AJ2241 20	1508	CAA11 838	1509	AK001415	1510	NP_003 838	1511	82.5	Peroxisomal membrane protein Pmp26p	AJ224120 Rattus norvegicus peroxisomal membrane protein Pmp26p (Peroxin-11) /cds=(138,878) /gb=AJ224120 /gi=3150212 /ug=Rn.14519 /len=1194	

Table 2.

AJ2248 79	1512	AAA797 80	1513	XM_05015 3	XP_050 153	93	Collagen alpha 1 type II, partial CDS	L48440	AJ224879 Rattus norvegicus mRNA for collagen alpha 1 type II, partial CDS /cds=(0..146) /gb=AJ224879 /gi=3164120 /ug=Rn.10124 /len=580	
C06598	1514	No Rat Protein Found.	M75099	1515	P26885	1516	90.95	Rat pancreatic islet cDNA Rattus norvegicus cDNA similar to rapamycin- binding protein FKBp-13, mRNA sequence	C06598 Rat pancreatic islet cDNA Rattus norvegicus cDNA similar to rapamycin- binding protein FKBp-13, mRNA sequence [Rattus norvegicus]	
D00092	1517	BAA209 56	1518	XM_04135 5	XP_041 355	1520	76	70 kd mitochondrial autoantigen	D00092 RATMTAA Rattus norvegicus mRNA for 70 kd mitochondrial autoantigen, partial cds	
D00189	1521	BAA001 29	1522	ATP1A3	S00801	1523	99	Na ⁺ ,K ⁺ - ATPase alpha- subunit	D00189 Rattus norvegicus mRNA for Na ⁺ ,K ⁺ - ATPase alpha-subunit, complete cds /cds=(140..3181) /gb=D00189 /gi=220825 /ug=Rn.10312 /len=3557	
D00189	1524	BAA001 29	1525	ATP1A3	S00801	1526	99	Na ⁺ ,K ⁺ - ATPase alpha- subunit	D00189 Rattus norvegicus mRNA for Na ⁺ ,K ⁺ - ATPase alpha-subunit, complete cds /cds=(140..3181) /gb=D00189 /gi=220825 /ug=Rn.10312 /len=3557	
D00512	1527	BAA004 01	1528	NM_0000 19	1529	P24752	1530	76	mitochondrial acetoacetyl- CoA thiolase	D00512 RATACAL Rattus sp. mRNA for mitochondrial acetoacetyl-CoA thiolase precursor, complete cds
D00512	1531	BAA004 01	1532	NM_0000 19	1533	P24752	1534	76	mitochondrial acetoacetyl- CoA thiolase	D00512 RATACAL Rattus sp. mRNA for mitochondrial acetoacetyl-CoA thiolase precursor, complete cds
D00569	1535	Q64591	1536	L26050	1537	Q16698	1538	81	Rattus norvegicus mRNA for 2,4- dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18..1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118

Table 2.

D00569	1539	Q64591	1540	L26050	1541	Q16698	1542	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118	Mitochondrial "2,4-dienoyl-CoA reductase, mitochondrial precursor (EC 1.3.1.34) (2,4-dienoyl-CoA reductase [NADPH]) (4-enoyl-CoA reductase [NADPH])."
D00569	1543	Q64591	1544	L26050	1545	Q16698	1546	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118	Mitochondrial "2,4-dienoyl-CoA reductase, mitochondrial precursor (EC 1.3.1.34) (2,4-dienoyl-CoA reductase [NADPH]) (4-enoyl-CoA reductase [NADPH])."
D00636	1547	BAA005	1548	NM_000398	1549	P00387	1550	83	NADH-Cytochrome b5 reductase	D00636cds RATB5RM Rattus sp. mRNA for NADH-cytochrome b5 reductase, complete cds	
D00636	1551	BAA005	1552	NM_000398	1553	P00387	1554	83	NADH-Cytochrome b5 reductase	D00636Poly_Alike1 RATB5RM Rattus sp. mRNA for NADH-cytochrome b5 reductase, complete cds	
D00688	1555	BAA005	1556	NM_000240	1557	P21397	1558	82	monoamine oxidase A	D00688 RATMAOA Rat monoamine oxidase A gene, complete cds	
D00729	1559	BAA006	1560	Z25820	1561	P42126	1562	83.33	Delta3, delta2-enoyl-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	D00729 Rat mRNA for delta3, delta2-enoyl-CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24969 /len=1060	

Table 2.

D00729	1563	BAA006 29	1564	Z25820	1565	P42126	1566	83.33	Delta3, delta2- enoyl-CoA isomerase; SEVERAL EXONS, ONLY 1 & 2 LISTED ON THIS SHEET	D00729 Rat mRNA for delta3, delta2-enoyl- CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24969 /len=1060
D00913	1567	BAA007 59	1568	NM_00002 01	1569	P05362	1570	50	Intercellular adhesion molecule-1	D00913 RATICAM Rattus sp. mRNA for intercellular adhesion molecule-1, complete cds
D00913	1571	BAA007 59	1572	NM_00002 01	1573	P05362	1574	50	Intercellular adhesion molecule-1	D00913 RATICAM Rattus sp. mRNA for intercellular adhesion molecule-1, complete cds
D10392	1575	P32851	1576	BC0003011	1577	Q16623	1578	92.7	Rattus norvegicus Syntaxin A mRNA, 3' end	D10392 Rat mRNA for HPC-1 antigen, C- terminal /cds=(0,897) /gb=D10392 /gi=220776 /ug=Rn.9943 /len=2130
D10587	1579	BAA014 44	1580	D12676	1581	Q14108	1582	82	85kDa sialoglycoprot ein (LGP85)	Syntaxin 1A (Synaptotagmin associated 35 kDa protein) (P25A)(Neuron- specific antigen HPC-1).
D10587	1583	BAA014 44	1584	D12676	1585	Q14108	1586	82	85kDa sialoglycoprot ein (LGP85)	D10587 RATLGP85 Rattus sp. mRNA for 85kDa sialoglycoprotein (LGP85), complete cds

Table 2.

D10655	1587	P08461	1588	Y00978	1589	P10515	1590	79	Dihydrolipoamide acetyltransferase	D10655 RATPDCE2 Rat mRNA for dihydrolipoamide acetyltransferase	Mitochondrial matrix.	Dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase complex (EC 2.3.1.12) (E2) (PDC-E2) (70 kDa mitochondrial autoantigen of primary biliary cirrhosis) (PBC) (Fragment).
D10655	1591	P08461	1592	Y00978	1593	P10515	1594	79	Dihydrolipoamide acetyltransferase	D10655 RATPDCE2 Rat mRNA for dihydrolipoamide acetyltransferase	Mitochondrial matrix.	Dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase complex (EC 2.3.1.12) (E2) (PDC-E2) (70 kDa mitochondrial autoantigen of primary biliary cirrhosis) (PBC) (Fragment).
D10655												
D10655												

Table 2.

D10666	1595	P28677	1596	AF039555	1597	P28677	1598	91.73	Neural visinin-like protein 1	Visinin-like protein 1 (VLIP-1) (Neural visinin-like protein 1) (NVL-1) (NVP-1) (21 kDa CABP) (Neurocalcin alpha) (Hippocalcin-like protein3) (HLP3),
D10666	1599	BAA015_49	1600	NM_004152	1601	NP_004152	1602	84	Ornithine decarboxylase antizyme	D10666 Rat mRNA for neural visinin-like protein (NVP), complete cds /gb=D10666 /gi=220827 /ug=Rn.10582 /len=1051
D10706	1603	BAA015_49	1604	NM_004152	1605	NP_004152	1606	84	Ornithine decarboxylase antizyme	D10706 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10706	1607	BAA015_49	1608	NM_004152	1609	NP_004152	1610	84	Ornithine decarboxylase antizyme	D10706 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10706	1611	BAA015_49	1612	NM_004152	1613	NP_004152	1614	84	Ornithine decarboxylase antizyme	D10706cds#2 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10706	1615	BAA015_49	1616	NM_004152	1617	NP_004152	1618	84	Ornithine decarboxylase antizyme	D10706cds#2 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10706	1619	BAA015_49	1620	NM_004152	1621	NP_004152	1622	84	Ornithine decarboxylase antizyme	D10706cds#3 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10729	1623	BAA015_72	1624	XM_016879		XP_016879		93	proteasome subunit RC1	D10729 RATPSRC1 Rat mRNA for proteasome subunit RC1
D10770	1625	BAA016_01	1626	NM_002731	1627	P22694	1628	96	Rat mRNA for beta isoform of catalytic subunit of cAMP-dependent protein kinase, complete cds	D10770 RATCDPK Rat mRNA for beta isoform of catalytic subunit of cAMP-dependent protein kinase, complete cds

Table 2.

D10852	1629	Q02527	1630	L48489	1631	Q09327	1632	94.12	Mannoside acetyl glucosaminyl transferase 3		D10852 Rat mRNA for N-acetylglucosaminyltransferase III, complete cds /cds=57,1667 /gb=D10852 /gi=220821 /ug=Rn.9803 /len=2684	Type II membrane protein.	"Beta-1,4-mannosyl-glycoprotein beta-1,4-N-acetylglucosaminyl-transferase (EC 2.4.1.14) (N-glycosy-oligosaccharide-glycoproteinN-acetylglucosaminyltransferase III) (N-acetylglucosaminyltransferaseIII)"
D12498	1633	Q04589	1634	XM_016079		XP_016079		91	FGF receptor-1		D12498 RATFGFR1 Rat mRNA for FGF receptor-1, complete cds	Type I membrane protein.	Basic fibroblast growth factor receptor 1 precursor (EC 2.7.1.112)(FGF R-1) (bFGF-R) (MFR).
D12524	1635	BAA02094	1636	NM_000222		1637	P10721	1638	c-kit receptor tyrosine kinase.		D12524 RATCKITPO Rat mRNA for c-kit receptor tyrosine kinase		
D12573	1639	P32076	1640	NM_002143		1641	P32076	1642	Hippocalcin		D12573 Rat mRNA for neuron specific calcium-binding protein hippocalcin (P23K) (Calcium binding protein BDR-2).		Neuron specific calcium-binding protein hippocalcin (P23K) (Calcium binding protein BDR-2).

Table 2.

D12769	1643	Q01713	1644	NM_0012	1645	Q13886	1646	91	Rattus norvegicus mRNA for BTE binding protein, complete cds	D12769 RATBTEB Rattus norvegicus mRNA for BTE binding protein	Nuclear.	Transcription factor BTEB1 (Basic transcription element bindingprotein 1) (BTE-binding protein 1) (GC box binding protein 1).
D12769	1647	Q01713	1648	NM_0012	1649	Q13886	1650	91	Rattus norvegicus mRNA for BTE binding protein, complete cds	D12769 RATBTEB Rattus norvegicus mRNA for BTE binding protein	Nuclear.	Transcription factor BTEB1 (Basic transcription element bindingprotein 1) (BTE-binding protein 1) (GC box binding protein 1).
D12927	1651	BAA023	1652	NM_0031	1653	NP_003	1654	85	transcription elongation factor S-II	D12927 RATSII/T1 Rattus sp. mRNA for transcription elongation factor S-II, complete cds		
D13122	1655	Q03344	1656	NM_0163	1657	Q9UII2	1658	74	Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	AA891873 D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial "ATPase inhibitor, mitochondrial precursor."	
D13122	1659	Q03344	1660	NM_0163	1661	Q9UII2	1662	74	ATPase inhibitor (rat mitochondrial IF1 protein)	D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial "ATPase inhibitor, mitochondrial precursor."	
D13122	1663	Q03344	1664	NM_0163	1665	Q9UII2	1666	74	Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	AA891873 D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial "ATPase inhibitor, mitochondrial precursor."	

Table 2.

D13122	1667	Q03344	1668	NM_0163 11	1669	Q9UJ12	1670	74	ATPase inhibitor (rat mitochondrial IF1 protein)	D13122 Rat/ATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial "ATPase inhibitor, mitochondrial precursor."
D13126	1671	P35333	1672	NM_0021 49	1673	P37235	1674	90.54	Neural visinin- like Ca ²⁺ - binding protein type 3 (NVP- 3)	D13126 Rat mRNA for neural visinin-like Ca ²⁺ -binding protein type 3 (NVP-3), complete cds /cds=(291,872) /gb=D13126 /gi=2886243 /ug=Rn.9661 /len=1015	Visinin-like protein 3 (VNP- 3) (Neural visinin-like protein 3)(NVL- 3) (NVP-3) (Hippocalcin-like protein 1).
D13127	1675	Q06647	1676	AW44949 3	1677	CAA582	1678	92.78	Rattus norvegicus mRNA for oligomycin sensitivity confering protein, complete cds	D13127 RATOSCP Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	Mitochondrial "ATP synthase oligomycin sensitivity conferred protein, mitochondrialpr ecursor (EC 3.6.3.14) (OSCP)."
D13127	1679	Q06647	1680	AW44949 3	1681	CAA582	1682	92.78	Rattus norvegicus mRNA for oligomycin sensitivity confering protein, complete cds	D13127 RATOSCP Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	Mitochondrial "ATP synthase oligomycin sensitivity conferred protein, mitochondrialpr ecursor (EC 3.6.3.14) (OSCP)."
D13907	1683	Q03346	1684	AF054182	1685	O75439	1686	88	Mitochondrial processing peptidase beta	D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	Mitochondrial matrix. Mitochondrial processing peptidase beta subunit, mitochondrialpr ecursor (EC 3.4.24.64) (Beta- MPP) (P-52)."

Table 2.

D13907	1687	Q03346	1688	AF054182	1689	O75439	1690	88	Mitochondrial processing peptidase beta		D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	Mitochondrial processing peptidase beta subunit, mitochondrial precursor (EC 3.4.24.64) (Beta-MPP) (P-52)."
D13907	1691	Q03346	1692	AF054182	1693	O75439	1694	88	Mitochondrial processing peptidase beta		D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	Mitochondrial processing peptidase beta subunit, mitochondrial precursor (EC 3.4.24.64) (Beta-MPP) (P-52)."
D13907	1695	Q03346	1696	AF054182	1697	O75439	1698	88	Mitochondrial processing peptidase beta		D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	Mitochondrial processing peptidase beta subunit, mitochondrial precursor (EC 3.4.24.64) (Beta-MPP) (P-52)."
D13962	1699	Q07647	1700	M20681	1701	P11169	1702	83	Solute carrier family 2 A3 (neuron glucose transporter)		D13962 RATGLUT3 Rat mRNA for neuron glucose transporter	Integral membrane protein.
D13963	1703	P35349	1704	NM_000843	1705	NP_0008834	1706	89.29	Metabotropic glutamate receptor subtype		D13963 RATMGLUR6 Rat mRNA for metabotropic glutamate receptor subtype, complete cds	Integral membrane protein.
D13978	1707	BAA030	1708	BC008195	1709	P04424	1710	90	argininosuccinate lyase		D13978 Rattus sp. mRNA for argininosuccinate lyase, complete cds	

Table 2.

D13985	1711	Q04753	1712	AA832121	1713	NP_001 284	1714	94.77 Chloride channel RCL1	D13985 RATRCL Rat mRNA for chloride channel RCL1, complete cds	Cytoplasmic. "Chloride conductance regulatory protein ICln (ICln)) (Chloridechanne l, nucleotide sensitive 1A)."
D13985	1715	Q04753	1716	AA832121	1717	NP_001 284	1718	94.77 Chloride channel RCL1	D13985 RATRCL Rat mRNA for chloride channel RCL1, complete cds	Cytoplasmic. "Chloride conductance regulatory protein ICln (ICln)) (Chloridechanne l, nucleotide sensitive 1A)."
D14014	1719	BAA031	1720	X59798	1721	P24385	1722	82 Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds	
D14014	1723	BAA031	1724	X59798	1725	P24385	1726	82 Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds	
D14014	1727	BAA031	1728	X59798	1729	P24385	1730	82 Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds	
D14014	1731	BAA031	1732	X59798	1733	P24385	1734	82 Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds	
D14015	1735	BAA031	1736	M73812	1737	P24864	1738	76 Cyclin E	D14015 RATCYCLE Rat mRNA for cyclin E, complete cds	
D14015	1739	BAA031	1740	M73812	1741	P24864	1742	76 Cyclin E	D14015 RATCYCLE Rat mRNA for cyclin E, complete cds	
D14418	1743	BAA219	1744	M31786	1745	AAA355 31	1746	99 A regulatory subunit of protein phosphatase 2A	D14418 Rattus norvegicus PP2A ARa mRNA for A regulatory subunit of protein phosphatase 2A, partial cds	
D14419	1747	AAA419	1748	NM_0027	1749	Q00007	1750	95 Rat protein phosphatase 2A (PP2A) 55 KD regulatory subunit alpha	D14419 Rattus norvegicus PP2A BRa mRNA for B regulatory subunit of protein phosphatase 2A, partial cds	
D14421	1751	BAA033	1752	NM_0045	1753	NP_004 567	1754	100 b isotype of B regulatory subunit of protein phosphatase 2A	D14421 RATTP2ABRB Rat PP2A BRb mRNA for b isotype of B regulatory subunit of protein phosphatase 2A, partial sequence	

Table 2.

D14421	1755	BAA033	1756	NM_004576	1757	NP_004567	1758	100	b isotype of B regulatory subunit of protein phosphatase 2A	D14421 RATPPP2ABRB Rat PP2A BRb mRNA for b isotype of B regulatory subunit of protein phosphatase 2A, partial sequence	
D14568	1759	P06705	1760	M30773	1761	P06705	1762	100	Protein phosphatase 3, regulatory subunit B, alpha isoform (calcineurin B, type I)	D14568 RATRSCDPP Rat mRNA for calcineurin B	Calcineurin B subunit isoform 1 (Protein phosphatase 2B regulatory subunit 1) (Protein phosphatase 3 regulatory subunit B alpha isoform1).
D14591	1763	Q01986	1764	BI549938	1765	Q02750	1766	93.33	Mitogen activated protein kinase 2	D14591 RATMEK1 Rat mRNA for MAP kinase kinase, complete cds	Dual specificity mitogen-activated protein kinase kinase 1(EC 2.7.1.-) (MAP kinase kinase 1) (MAPKK1) (ERK activator kinase 1)(MAPK/ERK kinase 1) (MEK1).
D14688	1767	P18666	1768	XM_041677	7	XP_04167677		91	myosin regulatory light chain	D14688 RATMRLC Rattus norvegicus mRNA for myosin regulatory light chain, complete cds	"Myosin regulatory light chain 2-B, smooth muscle isoform (Myosin RLC-B)."

Table 2.

D14819	1769	BAA035	1770	NM_016257	1771	NP_057341	1772	97	Rat mRNA for calcium-binding protein P23k beta, partial cds	D14819 RATCBPP23B Rat mRNA for calcium-binding protein P23k beta, partial cds		
D14839	1773	P36364	1774	NM_002010	1775	P31371	1776	99	Fibroblast growth factor 9	D14839 Rat mRNA for FGF-9, complete cds /cds=(177,803) /gb=D14839 /gi=391852 /ug=Rn.25174 /len=1084	Secreted.	Glia-activating factor precursor (GAF) (fibroblast growth factor-9)(FGF-9) (HBGF-9).
D16302	1777	Q09325	1778	NM_002406	1779	P26572	1780	84	N-acetylglucosaminyltransferase I, complete cds /cds=(157,1500) /gb=D16302 /gi=455397 /ug=Rn.2712 /len=2546	D16302 Rat mRNA for N-acetylglucosaminyltransferase I, complete cds /cds=(157,1500) /gb=D16302 /gi=455397 /ug=Rn.2712 /len=2546	Type II membrane protein. Golgi.	"Alpha-1,3-mannosyl-glycoprotein beta-1,2-N-acetylglucosaminyltransferase (EC 2.4.1.101) (N-glycosyloigosaccharide-glycoprotein N-acetylglucosaminyltransferase I) (GNT-I) (GlcNAc-T I)."
D16308	1781	BAA038	1782	NM_001759	1783	P30279	1784	92	cyclin D2	D16308 RATCLND2 Rat mRNA for cyclin D2, complete cds		
D16309	1785	BAA038	1786	NM_001760	1787	P30281	1788	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1789	BAA038	1790	NM_001760	1791	P30281	1792	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1793	BAA038	1794	NM_001760	1795	P30281	1796	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1797	BAA038	1798	NM_001760	1799	P30281	1800	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16817	1801	P35400	1802	X94552	1803	Q14831	1804	91.34	Metabotropic glutamate receptor mGluR7	D16817 RATmGGR Rat mRNA for metabotropic glutamate receptor mGluR7	Integral membrane protein.	Metabotropic glutamate receptor 7 precursor (mGluR7).

Table 2.

D17310	1805	P23457	1806	NM_0143	1807	BAA95	1808	94.39	Steroid 3-alpha-dehydrogenase	D17310 RATS3AD Rat mRNA for steroid 3-alpha-dehydrogenase, complete cds	Cytoplasmic. 3-alpha-hydroxysteroid dehydrogenase (EC 1.1.1.50) (3-alpha-HSD)(Hydroxyprogesterone dehydrogenase)
D17370	1809	P18757	1810	S52028	1811	P32929	1812	84.51	CTL target antigen	D17370 RATCGL Rat mRNA for cystathionine gamma-lyase, complete cds	Cytoplasmic. Cystathionine gamma-lyase (EC 4.4.1.1) (Gamma-cystathionease)(Probasin-related antigen) (PRB-RA).
D17521	1813	BAA044	1814	NM_0018	1815	NP_001820	1816	90	Protein kinase C-regulated chloride channel	D17521 RATCLC3 Rat mRNA for protein kinase C-regulated chloride channel, complete cds	
D17614	1817	P35216	1818	NM_006826	1819	P27348	1820	99	14-3-3 protein theta-subtype	D17614 Rat mRNA for 14-3-3 protein theta-subtype, complete cds /cds=(85,822)/gb=D17614 /gi=402508 /ug=Rn.2502/len=2099	Cytoplasmic. tau (14-3-3 protein theta).
D17711	1821	Q07244	1822	BF930538	1823	P54296	1824	96.75	Rattus norvegicus mRNA for dC-stretch binding protein (CSBP), complete cds	D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLASM AND NUCLEAR; NUCLEOPLA SM. Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).

Table 2.

D17711	1825	Q07244	1826	BF930538	1827	P54296	1828	96.75	Rattus nonnevius mRNA for dC-stretch binding protein (CSBP), complete cds	D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLASM AND NUCLEAR; NUCLEOPLA SM.	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).
D17711	1829	Q07244	1830	BF930538	1831	P54296	1832	96.75	dC-stretch binding protein (CSBP)	AA799582 D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLASM AND NUCLEAR; NUCLEOPLA SM.	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).
D17809	1833	Q10468	1834	M83651	1835	Q00973	1836	87.83	Beta-4N-acetylgalactosaminyltransferase	NM_02286 D17809 Rat mRNA for beta-4N-acetylgalactosaminyltransferase, complete cds /cds=30/len=497841 /gb=D17809 /gi=497841 /ug=Rn.10119 /len=2166	Type II membrane protein. Golgi.	"Beta-1,4 N-acetylgalactosaminyltransferase (EC 2.4.1.92) ((N-acetylneuraminy l)-galactosylglucos yleramide) (GM2/GD2 Synthase)(GaN Ac-T)."

Table 2.

D21132	1837	P53812	1838	NM_0123	1839	P48739	1840	98	phosphatidylino sitol transfer protein	AA998446	D21132 Rat mRNA for phosphatidylinositol transfer protein (beta isoform), complete cds /cds=(24,839) /gb=D21132 /gi=516831 /ug=Rn.2399 /len=2680	Cytoplasmic.
D21869	1841	NP_113 903	1842	BCC07798	1843	P08237	1844	96	PKF-M (phosphofruct okinase-M)	NM_03171 5	D21869 RATPFKM04 Rat mRNA for PKF-M (phosphofructokinase-M), partial cds	
D25233	1845	P33568	1846	L41870	1847	P06400	1848	89.34	Rattus norvegicus mRNA for retinoblastom a protein, partial sequence	D25233cds RATTRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	
D25233	1849	P33568	1850	L41870	1851	P06400	1852	89.34	retinoblastom a 1	D25233cds RATTRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	
D25233	1853	P33568	1854	L41870	1855	P06400	1856	89.34	Rattus norvegicus mRNA for retinoblastom a protein, partial sequence	D25233UTR#1 RATTRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	
D25233	1857	P33568	1858	L41870	1859	P06400	1860	89.34	retinoblastom a 1	D25233UTR#1 RATTRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	
D25233	1861	P33568	1862	L41870	1863	P06400	1864	89.34	Rattus norvegicus mRNA for retinoblastom a protein, partial sequence	D25233UTR#1 RATTRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	

Table 2.

D25233	1865	P33568	1866	L41870	1867	P06400	1868	89.34 a 1	retinoblastom	Nuclear.
D25543	1869	BAA05026	1870	X75304	1871	CAA53052	1872	64	Novel golgi-associated protein GCP360	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25543	1873	BAA05026	1874	X75304	1875	CAA53052	1876	64	Novel golgi-associated protein GCP360	D25543 RATGCP60 Rat mRNA for novel golgi-associated protein GCP360, complete cds
D26073	1877	BAA05068	1878	XM_008138		XP_008138		92	phosphoribosylpyrophosphate synthetase-associated protein (39 kDa)	D26073 RATPSAP Rat mRNA for phosphoribosylpyrophosphate synthetase-associated protein (39kDa)
D26073	1879	BAA05068	1880	XM_008138		XP_008138		92	phosphoribosylpyrophosphate synthetase-associated protein (39 kDa)	D26073 RATPSAP Rat mRNA for phosphoribosylpyrophosphate synthetase-associated protein (39kDa)
D26154	1881	BAA05141	1882	XM_032627		XP_032627		82	RB109 (brain specific protein)	D26154cds RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1883	BAA05141	1884	XM_032627		XP_032627		82	RB109 (brain specific protein)	D26154cds RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1885	BAA05141	1886	XM_032627		XP_032627		82	RB109 (brain specific protein)	D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1887	BAA05141	1888	XM_032627		XP_032627		82	RB109 (brain specific protein)	D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1889	BAA05141	1890	XM_032627		XP_032627		82	RB109 (brain specific protein)	D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1891	BAA05141	1892	XM_032627		XP_032627		82	RB109 (brain specific protein)	D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds

Table 2.

D26178	1893	BAA051	1894	NM_014920	1895	NP_055735	1896	79 serine/threonine protein kinase	D26178 Rat heart mRNA serine/threonine protein kinase, complete cds /cds=(296,2185)/gb=D26178 /gi=1127035 /ug=Rn.3750/len=2350	Cytoplasmic.	Protein kinase C-like 1 (EC 2.7.1.-) (Protein-kinase C-related kinase 1) (Protein kinase C-like PKN) (Serine-threonine protein kinase N)(Protease-activated kinase 1) (PAK-1).
D26180	1897	Q63433	1898	XM_031273	1899	XP_031273	1900	78 novel protein kinase PKN	D26180 Rat mRNA for novel protein kinase PKN, complete cds /cds=(125,2965)/gb=D26180 /gi=485401 /ug=Rn.10071/len=3035		
D26500	1901	BAA05508	1902	NM_001372	1903	Q9NYC9	1904	80 Dynein-like protein 9A, partial cds	D26500 RATDLP9A Rat mRNA for dynein-like protein 9A, partial cds		
D28512	1905	P40748	1906	AL136594	1907	Q9BQG1	1908	87.74 Synaptotagmin III	D28512 RATSIII Rat mRNA for Synaptotagmin III, complete cds	Integral membrane protein.	Synaptic vesicles.
D28557	1909	Q62764	1910	BE122757	1911	P20618	1912	96.92 RYB-a	D28557 Rat mRNA for RYB-a, complete cds /cds=(50,925)/gb=D28557 /gi=505132/ug=Rn.3306 /len=1500	Nuclear.	DNA-binding protein A (Cold shock domain protein A) (Muscle Y-boxprotein YB2) (Y-box binding protein-A) (RYB-A).
D29683	1913	P42893	1914	Z35307	1915	P42892	1916	89.92 endothelin-converting enzyme	AA956930 D29683 Rat mRNA for endothelin-converting enzyme, complete cds /cds=(96,2360)/gb=D29683 /gi=529084 /ug=Rn.7000/len=4469	Type II membrane protein.	Endothelin-converting enzyme 1 (EC 3.4.24.71) (ECE-1).

Table 2.

D29766	1917	Q63767	1918	AJ242987	1919	P56945	1920	91	V-crk-associated tyrosine kinase substrate	D29766cds#1 RATP130CAS Rattus norvegicus mRNA for Crk-associated substrate, p130, complete cds	FOCAL ADHESIONS AND STRESS FIBERS. UNPHOSPHORYLATED FORM LOCALIZES IN THE CYTOPLASM AND CAN MOVE TO THE MEMBRANE UPON TYROSINE PHOSPHORYLATION.	CRK-associated substrate (P130CAS) (Breast cancer anti-estrogenresistance 1 protein).
D29766	1921	Q63767	1922	AJ242987	1923	P56945	1924	91	V-crk-associated tyrosine kinase substrate	D29766Poly_ASite#1 RATP130CAS Rattus norvegicus mRNA for Crk-associated substrate, p130, complete cds	FOCAL ADHESIONS AND STRESS FIBERS. UNPHOSPHORYLATED FORM LOCALIZES IN THE CYTOPLASM AND CAN MOVE TO THE MEMBRANE UPON TYROSINE PHOSPHORYLATION.	CRK-associated substrate (P130CAS) (Breast cancer anti-estrogenresistance 1 protein).
D29960	1925	P97541	1926	NM_001885	1927	P02511	1928	46	alphaB-crystallin-related protein	A1103838	D29960 Rat mRNA for alphaB crystallin-related protein, complete cds /cds=(5,493) /gb=D29960 /gi=1753175 /ug=Rn3201 /len=1310	Heat-shock 20 kDa like-protein P20.

Table 2.

D30041	1929	P47197	1930	AK054771	1931	P31751	1932	92.46	RAC protein kinase beta		D30041 Rat mRNA for RAC protein kinase beta, complete cds /cds=(281,1726) /gb=D30041 /gi=485404 /ug=Rn.4293 /len=1984	"RAC-beta serine/threonine protein kinase (EC 2.7.1.-) (RAC-PK-beta)(Protein kinase Akt-2) (Protein kinase B, beta), (PKB beta)."
D30647	1933	P45953	1934	AF006012	1935	O14641	1936	93.4	Acy-CoA dehydrogenase, Very long chain		D30647 Rat mRNA for very-long-chain Acyl-CoA dehydrogenase, complete cds /cds=(21,1988) /gb=D30647 /gi=533356 /ug=Rn.10279 /len=2102	Mitochondrial inner membrane. "Acy-CoA dehydrogenase, very-long-chain specific, mitochondrial precursor (EC 1.3.99.-) (VLCAD)."
D30649	1937	BAA063	1938	AF005632	1939	AAC518	1940	86.75	Phosphodiesterase I		D30649mRNA RATPDIB Rat mRNA for phosphodiesterase I, complete cds	
D30649	1941	BAA063	1942	AF005632	1943	AAC518	1944	86.75	Phosphodiesterase I		D30649mRNA RATPDIB Rat mRNA for phosphodiesterase I, complete cds	
D30734	1945	BAA063	1946	D78155	1947	Q15283	1948	85	Ras GTPase-activating protein		D30734 RATGAP1M Rat mRNA for Ras GTPase-activating protein, complete cds	
D30739	1949	BAA064	1950	NM_003406	1951	P29312	1952	99	mitochondrial import stimulation factor (MSF) L subunit		D30739 RAT1433PA Rat 14-3-3 protein mRNA for mitochondrial import stimulation factor (MSF) L subunit, complete cds	
D30804	1953	BAA064	1954	NM_002792	1955	O14818	1956	95	Proteasome subunit RC6-1		D30804 RATPSRC6I Rat mRNA for proteasome subunit RC6-1, complete cds	
D30804	1957	BAA064	1958	NM_002792	1959	O14818	1960	95	Proteasome subunit RC6-1		D30804 RATPSRC6I Rat mRNA for proteasome subunit RC6-1, complete cds	
D30804	1961	BAA064	1962	NM_002792	1963	O14818	1964	95	Proteasome subunit RC6-1		D30804 RATPSRC6I Rat mRNA for proteasome subunit RC6-1, complete cds	
D30804	1965	BAA064	1966	NM_002792	1967	O14818	1968	95	Proteasome subunit RC6-1		D30804 RATPSRC6I Rat mRNA for proteasome subunit RC6-1, complete cds	

Table 2.

D31873	1969	P53669	1970	NM_0167	1971	P53667	1972	88.55	LIM-domain containing, protein kinase		D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic . LIM domain kinase 1 (EC 2.7.1.37) (LIMK-1).
D31873	1973	P53669	1974	NM_0167	1975	P53667	1976	88.55	LIM-domain containing, protein kinase		D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic . LIM domain kinase 1 (EC 2.7.1.37) (LIMK-1).
D31873	1977	P53669	1978	NM_0167	1979	P53667	1980	88.55	LIM-domain containing, protein kinase		D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic . LIM domain kinase 1 (EC 2.7.1.37) (LIMK-1).
D31873	1981	P53669	1982	NM_0167	1983	P53667	1984	88.55	LIM-domain containing, protein kinase		D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic . LIM domain kinase 1 (EC 2.7.1.37) (LIMK-1).
D31873	1985	P53669	1986	NM_0167	1987	P53667	1988	88.55	LIM-domain containing, protein kinase		D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic . LIM domain kinase 1 (EC 2.7.1.37) (LIMK-1).
D31873	1989	P53669	1990	NM_0167	1991	P53667	1992	88.55	LIM-domain containing, protein kinase		D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic . LIM domain kinase 1 (EC 2.7.1.37) (LIMK-1).
D31874	1993	P53670	1994	BC013051	1995	P53671	1996	91.03	LIM motif-containing protein kinase 2		D31874 Rat mRNA for LIMK-2a, complete cds /cds=(62,1978) /gb=D31874 /gi=1684612 /ug=Rn.11013 /len=3455	Cytoplasmic . LIM domain kinase 1 (EC 2.7.1.-) (LIMK-2).
D32249	1997	BAA069	1998	AB007898	1999	XP_003693	2000	93.33	Neurodegeneration associated protein 1	E13644	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds	
D32249	2001	BAA069	2002	AB007898	2003	XP_003693	2004	93.33	Neurodegeneration associated protein 1	E13644	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds	
D32249	2005	BAA069	2006	AB007898	2007	XP_003693	2008	93.33	Neurodegeneration associated protein 1	E13644	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds	

Table 2.

D37380	2009	P55146	2010	U02566	2011	Q06448	2012	88.67	Bruton agammaglobulinemia tyrosine kinase		D37380 Rat mRNA for Sky, complete cds /cds=(25,2687) /gb=D37380 /gi=1498195 /ug=Rn.8883 /len=3726	Type I membrane protein.	Tyrosine-protein kinase receptor TYRO3 precursor (EC 2.7.1.112)(Tyrosine-protein kinase SKY).
D38222	2013	g10548 35	2014	L18983	2015	Q16849	2016	86	Rattus norvegicus tyrosine phosphatase-like protein IA-2a mRNA, partial cds		D38222 RATPDPTPLP Rat mRNA for protein tyrosine phosphatase-like protein, complete cds		
D38455	2017	P50343	2018	XM_01810 4	2019	XP_018 104	2020	75	Mast cell tryptase precursor		D38455 Rat mRNA for mast cell tryptase precursor, complete cds /cds=(25,849) /gb=D38455 /gi=556555 /ug=Rn.10183 /len=1097	Mast cell protease 6 precursor (EC 3.4.21.59) (RMCP-6) (Tryptase).	
D38492	2021	Q63198	2022	XM_03871 9		XP_038 719		95	neural adhesion molecule F3		D38492 Rat mRNA for neural adhesion molecule F3, complete cds /cds=(134,3199) /gb=D38492 /gi=1498193 /ug=Rn.21397 /len=3214	Attached to the membrane by a GPI-anchor.	Contactin precursor (Neural adhesion molecule F3).
D38629	2023	P70478	2024	XM_04393 3		XP_043 933		75	APC protein (adenomatosis polyposis coli)		L19306 D38629 Rat mRNA for APC protein, complete cds /cds=(53,8581) /gb=D38629 /gi=g928655 /ug=Rn.11351 /len=8582		Adenomatous polyposis coli protein (APC protein).
D42116	2025	BAA225	2026	X05309	2027	P17927	2028	36	512 antigen	D42115	D42116 Rattus norvegicus mRNA for 512 antigen, clone 17, partial cds		
D42116	2029	BAA225 48	2030	X05309	2031	P17927	2032	36	512 antigen	D42115	D42116 Rattus norvegicus mRNA for 512 antigen, clone 17, partial cds		
D42137	2033	BAA077 08	2034	NM_0011 54	2035	P08758	2036	91	Annexin		D42137 exon RATAV11 Rat annexin V gene, exon13		
D44481	2037	BAA079 24	2038	BC008506	2039	P46108	2040	92	CRK-II		D44481 RATCRKII Rat mRNA for CRK-II, complete cds		

Table 2.

D45249	2041	BAA082_06	2042	NM_006263	2043	Q06323	2044	85	Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds	D45249 RATPRPA28B Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		
D45249	2045	BAA082_06	2046	NM_006263	2047	Q06323	2048	85	Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds	D45249 RATPRPA28B Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		
D45252	2049	P48450	2050	NM_002340	2051	P48449	2052	82	oxidosqualene lanosterol-cyclase	E12275 D45252 RAT23OLC Rat mRNA for 2,3-oxidosqualene:lanosterol cyclase, complete cds	"Lanosterol synthase (EC 5.4.99.7) (Oxidosqualene-lanosterol cyclase)(2,3-epoxysqualene--lanosterol cyclase) (OSC)."	
D45252	2053	P48450	2054	NM_002340	2055	P48449	2056	82	2,3-oxidosqualene :lanosterol cyclase	D45252 RAT23OLC Rat mRNA for 2,3-oxidosqualene:lanosterol cyclase, complete cds	"Lanosterol synthase (EC 5.4.99.7) (Oxidosqualene-lanosterol cyclase)(2,3-epoxysqualene--lanosterol cyclase) (OSC)."	
D45254	2057	P20694	2058	NM_003418	2059	P20694	2060	91	Cellular Nucleic Acid Binding Protein	D45254 RATCNABP Rat mRNA for cellular nucleic acid binding protein (CNBP), complete cds	"CYTOPLASMIC ALSO PRESENT IN ENDOPLASMIC RETICULUM"	Cellular nucleic acid binding protein (CNBP).

Table 2.

D45254	2061	P20694	2062	NM_003418	2063	P20694	2064	91	Cellular Nucleic Acid Binding Protein	D45254 RATCNABP Rat mRNA for cellular nucleic acid binding protein (CNBP), complete cds	"CYTOPLAS MIC, ALSO PRESENT IN ENDOPLAS MIC RETICULUM"	Cellular nucleic acid binding protein (CNBP).
D45255	2065	BAA082	2066	XM_046272		XP_046272		90	GD3 synthase, complete cds	D45255 Rattus sp. mRNA for GD3 synthase, complete cds		
D45920	2067	BAA083	2068	D42108	2069	NP_006217	2070	89.8	Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds	AI072447 /cds=(466,3756) /gb=D45920 /gi=1183843 /ug=Rn.10684 /len=5233	D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds	
D45920	2071	BAA083	2072	D42108	2073	NP_006217	2074	89.8	130kDa-Ins(1,4,5)P3 binding protein	D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds		
D45920	2075	BAA083	2076	D42108	2077	NP_006217	2078	89.8	130kDa-Ins(1,4,5)P3 binding protein (phospholipase C)	E12159 /cds=(466,3756) /gb=D45920 /gi=1183843 /ug=Rn.10684 /len=5233	D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds	
D45920	2079	BAA083	2080	D42108	2081	NP_006217	2082	89.8	130kDa-Ins(1,4,5)P3 binding protein	D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds		
D49363	2083	BAA083	2084	AY026764	2085	AAK01939	2086	87	perichloric acid soluble protein	D49363 RATPSP1 Rat mRNA for perichloric acid soluble protein, complete cds	D49363 RATPSP1 Rat mRNA for perichloric acid soluble protein, complete cds	
D49395	2087	BAA083	2088	NM_0000869	2089	P46098	2090	82	Serotonin 5-HT3 receptor	D49395 RATSS5HT3RB Rat mRNA for serotonin 5-HT3 receptor, complete cds	D49395 RATSS5HT3RB Rat mRNA for serotonin 5-HT3 receptor, complete cds	
D49446	2091	BAA084	2092	U31659	2093	P49888	2094	76	TFIID subunit p80 (general transcription factor)	U70270 D49446 RATTFIIDSP Rat mRNA for TFIID subunit p80, complete cds	D49446 RATTFIIDSP Rat mRNA for TFIID subunit p80, complete cds	
D49653	2095	P50596	2096	U118915	2097	P41159	2098	85.22	Obesin (murine homolog, leptin)	D49653 RATOBESE Rat mRNA for obesin(leptin), complete cds	Secreted .	Leptin precursor (Obesity factor),

Table 2.

D49708	2099	Q15815	2100	BC000451	2101	Q15815	2102	RNA binding protein (transformer-2-like)	92.3	Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds	AA851749	D49708 Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds /cds=(135,1001) /gb=D49708 /gi=1255682 /ug=Rn.8538 /len=1978	Nuclear.	Arginine-serine-rich splicing factor 10 (Transformer-2-beta) (HTRA2-beta) (Transformer 2 protein homolog) (Silica-induced protein 41)(RA301).
D49708	2103	Q15815	2104	BC000451	2105	Q15815	2106	Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds	92.3	AI231164	D49708 Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds /cds=(135,1001) /gb=D49708 /gi=1255682 /ug=Rn.8538 /len=1978	Nuclear.	Arginine-serine-rich splicing factor 10 (Transformer-2-beta) (HTRA2-beta) (Transformer 2 protein homolog) (Silica-induced protein 41)(RA301).	
D49785	2107	Q63796	2108	U07358	2109	Q12852	2110	Protein kinase (MUK)	92.52	D49785 RATPK Rattus norvegicus mRNA for protein kinase (MUK), complete cds		Cytoplasmic and membrane-associated.	Mitogen-activated protein kinase kinase kinase 12 (EC 2.7.1.37)(MAPK-upstream kinase) (MUK).	
D49847	2111	P29354	2112	BC000631	2113	P29354	2114	Rat mRNA for Ash-s, complete cds	93.36	D49847 Rat mRNA for Ash-s, complete cds /cds=(144,323) /gb=D49847 /gi=914960 /ug=Rn.3360 /len=1739		Growth factor receptor-bound protein 2 (GRB2 adapter protein)(SH2/SH3 adapter GRB2) (ASH protein).		

Table 2.

D50093	2115	BAA087 90	2116	AY008282	2117	P04156	2118	59	Prion protein	D50093 Rat DNA for prion protein /cds=(10,774) /gb=D50093 /gi=1772326 /ug=Rn.3936 /len=1997	Mitochondrial matrix.	"Adrenodoxin, mitochondrial precursor (Adrenal ferredoxin)."
D50436	2119	P24483	2120	M18003	2121	P10109	2122	83.99	adrenodoxin	D50436 Rat mRNA for adrenodoxin, complete cds /cds=(64,630) /gb=D50436 /gi=801871 /ug=Rn.6946 /len=838	Mitochondrial matrix.	"NADPH-adreno doxin oxidoreductase, mitochondrial precursor(EC 1.18.1.2) (Adrenodoxin reductase) (AR) (Ferredoxin-NADP(+)reductase)."
D63761	2123	P56522	2124	J03826	2125	P22570	2126	87.04	Adrenodoxin reductase	D63761 Rattus norvegicus mRNA for adrenodoxin reductase, complete cds /cds=(22,1506) /gb=D63761 /gi=2665453 /ug=Rn.10860 /len=1786	Mitochondrial matrix.	"NADPH-adreno doxin oxidoreductase, mitochondrial precursor(EC 1.18.1.2) (Adrenodoxin reductase) (AR) (Ferredoxin-NADP(+)reductase)."
D63834	2127	P53987	2128	L31801	2129	P53985	2130	88.03	Solute carrier 16 (monocarboxylic acid transporter), member 1	D63834 Rat MCT1 mRNA for monocarboxylate transporter, complete cds /cds=(205,1689) /gb=D63834 /gi=1199781 /ug=Rn.6085 /len=3295	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 1 (MCT 1).
D63834	2131	P53987	2132	L31801	2133	P53985	2134	88.03	Solute carrier 16 (monocarboxylic acid transporter), member 1	D63834 Rat MCT1 mRNA for monocarboxylate transporter, complete cds /cds=(205,1689) /gb=D63834 /gi=1199781 /ug=Rn.6085 /len=3295	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 1 (MCT 1).
D63886	2135	BAA222 23	2136	NM_0059 41	2137	P51512	2138	90	MT3-MMP-de1	D63886 Rattus sp. mRNA for MT3-MMP-de1, complete cds		
D64045	2139	Q63787	2140	XM_04386 5	2141	XP_043 865	2142	87	phosphatidylinositol 3-kinase p85 alpha subunit	D64045 RATPI3KA Rat mRNA for phosphatidylinositol 3-kinase p85 alpha subunit, complete cds		Phosphatidylinositol 3-kinase regulatory alpha subunit (PI3-kinasep85-alpha subunit) (PtdIns-3-kinase p85-alpha) (PI3K).

Table 2.

D64046	2143	Q63788	2144	X80907	2145	O00459	2146	88.28	phosphatidylinositol 3-kinase p85 beta subunit	Phosphatidylinositol 3-kinase regulatory beta subunit (PI3-kinase p85-beta subunit) (PtdIns-3-kinase p85-beta).
D64050	2147	BAA19530	2148	U77917	2149	NP_002840	2150	88.72	tyrosine phosphatase CBPTP	D64046 Rat mRNA for phosphatidylinositol 3-kinase p85 beta subunit, complete cds /cds=(0..2168) /gb=D64046 /gi=1246389 /ug=Rn.22497 /len=2169
D78018	2151	P09414	2152	XM_046826	XP_046826	75	Nuclear Factor IA	D64050 Rat mRNA for tyrosine phosphatase CBPTP, complete cds /cds=(165..1772) /gb=D64050 /gi=1217597 /ug=Rn.6277 /len=2881	D64050 Rat mRNA for tyrosine phosphatase CBPTP, complete cds /cds=(165..1772) /gb=D64050 /gi=1217597 /ug=Rn.6277 /len=2881	
D78303	2153	BAA23885	2154	BF798521	2155	Q15032	2156	98.32	Y7521 mRNA for RNA splicing-related protein	D78018 Rat mRNA for NFIA2, complete cds /cds=(150..1613) /gb=D78018 /gi=1041033 /ug=Rn.10550 /len=2129
D78308	2157	P18418	2158	AA654394	2159	NP_004334	2160	93.14	calreticulin	D78303 Rattus norvegicus YT521 mRNA for RNA splicing-related protein, complete cds /cds=(316..2454) /gb=D78303 /gi=2696610 /ug=Rn.2155 /len=3206
										D78308 Rat mRNA for calreticulin, complete cds /cds=(15..1265) /gb=D78308 /gi=1089798 /ug=Rn.974 /len=1816
										Endoplasmic reticulum lumen.
										Calreticulin precursor (CRP55) (Calregulin) (HACBP) (ERp60) (CALBP)(Calciu m-binding protein 3) (CABP3).

Table 2.

D78308	2161	P18418	2162	AA654394	2163	NP_004334	2164	93.14	calreticulin	D78308 Rat mRNA for calreticulin, complete cds /cds=(15,1265) /gb=D78308 /gi=1089798 /ug=Rn.974 /len=1816	Endoplasmic reticulum lumen.	Calreticulin precursor (CRP55) (Calregulin) (HACBP) (ERP60) (CALBP)(Calciu m-binding protein 3) (CABP3).
D78588	2165	O08560	2166	U51477	2167	Q13574	2168	89.13	Diacylglycerol kinase	D78588 Rat mRNA for diacylglycerol kinase, complete cds /cds=(180,2969) /gb=D78588 /gi=1906781 /ug=Rn.11208 /len=3560	Nuclear.	"Diacylglycerol kinase, zeta (EC 2.7.1.107) (Diglyceride kinase) (DGK-zeta) (DAG kinase zeta) (DGK-IV) (104 kDa diacylglycerol kinase)."
D78588	2169	O08560	2170	U51477	2171	Q13574	2172	89.13	Diacylglycerol kinase	D78588 Rat mRNA for diacylglycerol kinase, complete cds /cds=(180,2969) /gb=D78588 /gi=1906781 /ug=Rn.11208 /len=3560	Nuclear.	"Diacylglycerol kinase, zeta (EC 2.7.1.107) (Diglyceride kinase) (DGK-zeta) (DAG kinase zeta) (DGK-IV) (104 kDa diacylglycerol kinase)."
D78613	2173	BAA114	2174	XM_005781		XP_005781		80	protein tyrosine phosphatase epsilon M	D78613 RATPTPEB Rat mRNA for protein tyrosine phosphatase epsilon M, partial cds		
D82074	2175	BAA115	2176	XM_002573	2177	XP_002573	2178	85	BHF-1	D82074 RATBHFI1MA Rattus sp. mRNA for BHF-1, complete cds		

Table 2.

D82928	2179	P70500	2180	AF014807	2181	O14735	2182	95	Rat mRNA for phosphatidylinositol synthase, complete cds	/gb=D82928 /gi=1620878 /ug=Rn.10598 /len=1621	D82928 Rat mRNA for phosphatidylinositol synthase, complete cds /cds=(142,783)	INTEGRAL MEMBRANE PROTEIN LOCATED ON THE CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM AND THE GOLGI; ALSO DETECTED IN PLASMA MEMBRANE.	CDP-diacylglycerol--inositol 3-phosphatidylinositol transferase (EC 2.7.8.11)(Phosphatidylinositol synthase) (Ptmins synthase) (PI synthase).
D82928	2183	P70500	2184	AF014807	2185	O14735	2186	95	Rat mRNA for phosphatidylinositol synthase, complete cds	/gb=D82928 /gi=1620878 /ug=Rn.10598 /len=1621	D82928 Rat mRNA for phosphatidylinositol synthase, complete cds /cds=(142,783)	INTEGRAL MEMBRANE PROTEIN LOCATED ON THE CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM AND THE GOLGI; ALSO DETECTED IN PLASMA MEMBRANE.	CDP-diacylglycerol--inositol 3-phosphatidylinositol transferase (EC 2.7.8.11)(Phosphatidylinositol synthase) (Ptmins synthase) (PI synthase).
D83538	2187	BAA196 ₁₄	2188	AK024034	2189	P42356	2190	93.91	Phosphatidylinositol 4-kinase		D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,6516) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857		
D83538	2191	BAA196 ₁₄	2192	AK024034	2193	P42356	2194	93.91	Phosphatidylinositol 4-kinase		D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,6516) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857		

Table 2.

D83538	2195	BAA196 14	2196	AK024034	2197	P42356	2198	93.91	Phosphatidylin ositol 4-kinase	D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,6516) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857	
D83538	2199	BAA196 14	2200	AK024034	2201	P42356	2202	93.91	Phosphatidylin ositol 4-kinase	D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,6516) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857	
D83948	2203	P70501	2204	AK000962	2205	g146916 7	2206	93.27	S1-1 protein from liver	D83948mRNA Rat adult liver mRNA for S1-1 protein, complete cds /cds=UNKNOWN /gb=D83948 /gi=1865639 /ug=Rn.8822 /len=3123	Nuclear. RNA-binding protein 10 (RNA binding motif protein 10) (S1- 1 protein).
D84346	2207	P55161	2208	AB011159	2209	Q9Y2A7	2210	98.15	NCK- associated protein 1	D84346 RATNAP1P Rattus norvegicus mRNA for Nap1 protein, partial cds	Nck-associated protein 1 (NAP 1) (p125Nap1) (Membrane- associatedprotein n HEM-2).
D84418	2211	P52925	2212	Z17240	2213	P26583	2214	91.27	High mobility group protein 2	D84418 Rat mRNA for chromosomal protein HMG2, complete cds /cds=(74,706) /gb=D84418 /gi=1304192 /ug=Rn.2874 /len=1072	Nuclear. High mobility group protein 2 (HMG-2).
D84667	2215	BAA189 69	2216	AI205643	2217	AAC511 56	2218	92.91	Phosphatidylin ositol 4-kinase	D84667 Rattus norvegicus mRNA for phosphatidylinositol 4-kinase, complete cds	
D85183	2219	BAA127 34	2220	NP_00463 9	NP_00463 639	NP_004 639	2221	61	SHPS-1	D85183 Rattus norvegicus mRNA for SHPS- 1, complete cds	
D85189	2222	O35547	2223	NM_02229	2224	O60488	2225	91.08	Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds	D85189 Rattus norvegicus mRNA for Acyl- CoA synthetase, complete cds /cds=(185,2197) /gb=D85189 /gi=2392022 /ug=Rn.2366 /len=4862	Long-chain-fatty- acid-CoA ligase 4 (EC 6.2.1.3) (Long-chain acyl CoA synthetase 4) (LACS 4).
D85189	2226	O35547	2227	NM_02229 77	2228	O60488	2229	91.08	Acyl-CoA synthetase	Al236284 D85189 Rattus norvegicus mRNA for Acyl- CoA synthetase, complete cds /cds=(185,2197) /gb=D85189 /gi=2392022 /ug=Rn.2366 /len=4862	Long-chain-fatty- acid-CoA ligase 4 (EC 6.2.1.3) (Long-chain acyl CoA synthetase 4) (LACS 4).

Table 2.

D86297	2230	Q63147	2231	NM_0016 95	2232	P21283	2233	95	erythroid-specific delta-aminolevulinic acid synthase	D86297 Rat mRNA for rat erythroid-specific delta-aminolevulinate synthase (rat ALAS-E). complete cds /cds=(15,1778) /gb=D86297 /gi=1407567 /ug=Rn.7069 /len=1899	Mitochondrial "5-aminolevulinic acid synthase, erythroid-specific, mitochondrial precursor (EC 2.3.1.37) (Delta-aminolevulinate synthase) (Delta-ALASynthetase) (ALAS-E)."
D86373	2234	O70536	2235	XM_03111 8	XP_03111 118		85	acyl-coenzyme A:cholesterol acyltransferase	D86373 Rattus norvegicus mRNA for acyl-coenzyme A-cholesterol acyltransferase, complete cds /cds=(91,1728) /gb=D86373 /gi=3036904 /ug=Rn.13213 /len=1750	Integral membrane protein. Endoplasmic reticulum.	
D86557	2236	BAA198 80	2237	NM_0204 39	2238	NP_065 172	2239	98	Protein Kinase A1229421	D86557 Rattus norvegicus mRNA for Protein Kinase, partial cds	
D86557	2240	BAA198 80	2241	NM_0204 39	2242	NP_065 172	2243	98	Protein Kinase D86557 Rattus norvegicus mRNA for Protein Kinase, partial cds	D86557 Rattus norvegicus mRNA for FK506-binding protein 12.6, complete cds	12.6 kDa FK506-binding protein (FKBP-12.6) (Peptidyl-prolyl cis-trans isomerase) (EC 5.2.1.8) (PPiase) (Rotamase) (Immunophilin FKBP12.6).
D86642	2244	P97534	2245	AF322070	2246	Q16645	2247	98.47	FK506 binding protein 1b (12.6 kDa)		
D86711	2248	No Rat Protein Found.		AL117662	2249	XP_052 908		92.16	Homo sapiens DKFZP586K0524 protein	D86711 D86711 Rattus norvegicus cDNA /gb=D86711 /gi=1549215 /ug=Rn.4240 /len=994	

Table 2.

D87240	2250	O35096	2251	AJ295747	2252	Q16875	2253	94.86	Rattus norvegicus RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase, complete cds /cds=(405,2072) /gb=D87240 /gi=2317651 /ug=Rn.10791 /len=2148	D87240 Rattus norvegicus RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase, complete cds /cds=(405,2072) /gb=D87240 /gi=2317651 /ug=Rn.10791 /len=2148	"6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3 (PFK2-K/Fru-2,6-P2ASE brain-type isozyme) (RB2K) [Includes: 6-phosphofructo-2-kinase (EC 2.7.1.105); Fructose-2,6-bisphosphatase (EC 3.1.3.46)]."
D87991	2254	BAA135	2255	NM_0058	2256	NP_0058	2257	84	UDP-galactose transporter related isozyme 1, complete cds	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds	
D87991	2258	BAA135	2259	NM_0058	2260	NP_0058	2261	84	UDP-galactose transporter related isozyme 1, complete cds	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds	
D87991	2262	BAA135	2263	NM_0058	2264	NP_0058	2265	84	UDP-galactose transporter related isozyme 1, complete cds	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds	

Table 2.

D87991	2266	BAA135	2267	NM_0058	2268	NP_005	2269	84	UDP-galactose transporter related isozyme 1, complete cds	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds
D88250	2270	JC6554	2271	J04080	2272	Q9UCV3	2273	76	Rattus norvegicus mRNA for serine protease, complete cds	D88250 Rattus norvegicus mRNA for serine protease, complete cds /cds=(246,2330)/gb=D88250 /gi=3080541 /ug=Rn.4037 /len=2908
D88250	2274	BAA257	2275	XM_00664	XP_00664	641	76	ESTs, Weakly similar to JC6554 probable serine proteinase [R. norvegicus]	AA799803 D88250 Rattus norvegicus mRNA for serine protease, complete cds /cds=(246,2330)/gb=D88250 /gi=3080541 /ug=Rn.4037 /len=2908	
D88534	2276	BAA136	2277	NM_0009	2278	P16233	2279	78	pancreatic lipase	D88534 Rattus norvegicus mRNA for pancreatic lipase, partial cds
D88672	2280	P70498	2281	AF038441	2282	O14939	2283	88.04	phospholipase D	D88672 Rat mRNA for phospholipase D, complete cds /cds=(336,3137) /gb=D88672 /gi=2077942 /ug=Rn.9798 /len=4562
D88890	2284	BAA196	2285	XM_00129	6	XP_00129	296	95	Acyl-CoA hydrolase	D88890 Rat mRNA for acyl-CoA hydrolase, complete cds /cds=(207,1223) /gb=D88890 /gi=1944427 /ug=Rn.6024 /len=1323

Table 2.

D89069	2286	P47727	2287	J04056	2288	P16152	2289	90.34	inducible carbonyl reductase	D89069 Rattus norvegicus mRNA for inducible carbonyl reductase, complete cds	Cytoplasmic. Carbonyl reductase [NADPH] 1 (EC 1.1.1.184) (NADPH-dependent carbonylreductase 1).
D89340	2290	O55096	2291	AK021449	2292	Q9NY33	2293	89.98	Rattus norvegicus mRNA for dipeptidyl peptidase III, complete cds	D89340 Rattus norvegicus mRNA for dipeptidyl peptidase, complete cds /cds=(14,2497) /gb=D89340 /gi=2832905 /ug=Rn.10902 /len=2615	Cytoplasmic. Dipeptidyl-peptidase III (EC 3.4.14.4) (DPP III) (Dipeptidylaminopeptidase III) (Dipeptidylarylamidase III).
D89655	2294	JC5533	2295	Z222555	2296	A48528	2297	78	CD36 antigen (collagen type I receptor, thrombospondin receptor)-like 1 (scavenger receptor class B type 1)	D89655 Rat mRNA for scavenger receptor class B, complete cds /cds=(120,1649) /gb=D89655 /gi=1752796 /ug=Rn.3142 /len=2392	
D89655	2298	JC5533	2299	Z222555	2300	A48528	2301	78	CD36 antigen (collagen type I receptor, thrombospondin receptor)-like 1 (scavenger receptor class B type 1)	D89655 Rat mRNA for scavenger receptor class B, complete cds /cds=(120,1649) /gb=D89655 /gi=1752796 /ug=Rn.3142 /len=2392	

Table 2.

D89730	2302	O35568	2303	NM_004105	2304	Q12805	2305	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds
D89730	2306	O35568	2307	NM_004105	2308	Q12805	2309	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds
D89730	2310	O35568	2311	NM_004105	2312	Q12805	2313	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds

Table 2.

D89730	2314	O35568	2315	NM_004105	2316	Q128805	2317	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds
D89983	2318	Q63764	2319	D88674	2320	O14977	2321	95.34	antizyme inhibitor	D89983 Rattus norvegicus mRNA for antizyme inhibitor, complete cds /cds=(730,2076) /gb=D89983 /gi=2641953 /ug=Rn.6290 /len=4269
D90038	2322	P16970	2323	BC009712	2324	P28288	2325	93.07	peroxisomal membrane protein(PMP70)	D90038 Rat liver 70-kDa peroxisomal membrane protein(PMP70) mRNA /cds=(35,2014) /gb=D90038 /gi=220861 /ug=Rn.7024 /len=3303
D90109	2326	P18163	2327	NM_001995	2328	P41215	2329	82	long-chain acyl-CoA synthetase	AA893242 D90109 Rat mRNA for long-chain acyl-CoA synthetase (EC 6.2.1.3) /cds=(13,2112) /gb=D90109 /gi=220717 /ug=Rn.6215 /len=3657
D90258	2330	BAA14302	2331	NM_002788	2332	P25788	2333	98	proteasome subunit RC8	D90258 RATPSC8 Rat mRNA for proteasome subunit RC8

Table 2.

D90401	2334	Q01205	2335	AI184508	2336	P55196	2337	95.76	Dihydroliopamide succinyltransf erase	D90401 RATAKGE2 Rat mRNA for dihydroliopamide succinyltransferase	Mitochondrial "Dihydroliopami de succinyltransf erase component of 2- oxoglutaratedeh ydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)."
D90401	2338	Q01205	2339	AI184508	2340	P55196	2341	95.76	Dihydroliopami de succinyltransf erase	D90401 RATAKGE2 Rat mRNA for dihydroliopamide succinyltransferase	Mitochondrial "Dihydroliopami de succinyltransf erase component of 2- oxoglutaratedeh ydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)."
D90404	2342	P80067	2343	AA296068	2344	S66504		96.07	Cathepsin C (dipeptidyl peptidase I)	D90404 RATCATC Rat mRNA for cathepsin C	Dipeptidyl- peptidase I precursor (EC 3.4.14.1) (DPP- I) (DPPI)(Cathepsi n C) (Cathepsi n J) (Dipeptidyl transferase).
D90404	2345	P80067	2346	AA296068	2347	S66504		96.07	Cathepsin C (dipeptidyl peptidase I)	D90404 RATCATC Rat mRNA for cathepsin C	Dipeptidyl- peptidase I precursor (EC 3.4.14.1) (DPP- I) (DPPI)(Cathepsi n C) (Cathepsi n J) (Dipeptidyl transferase).

Table 2.

E00717	2348	CAA25 153	2349 99	NM_0004 2350	P04798 2351	79	P-450 from Rat Liver	X00469	E00717UTR#1 cDNA encoding cytochrome
E00898	2352	No Rat Protein Found.	X74818	2353 17	CAA528 2354	86	Cancer specific cDNA	P-450 from Rat Liver E00898ccs Cancer specific cDNA	
E01415	2355	NP_112 416	2356 NM_0008 48	2357 P28161	2358 84	Rattus norvegicus glutathione S- transferase, mu type 3	NM_03115 4	NM_03115 cDNA encoding rat glutathione S transferase	
E01534	2359	NP_058 847	2360 NM_0010 18	2361 NM_0027 87	P11174 2362	69	ribosomal protein S15	NM_01715 1	E01534ccs DNA sequence expressed especially in rat insulinoma
E03358	2363	NP_058 975	2364 NM_0027 87	2365 P25787	2366 99	proteasome	NM_01727 9	E03358ccs cDNA encoding rat polyfunctional protease component C3	
E03358	2367	NP_058 975	2368 NM_0027 87	2369 P25787	2370 99	proteasome	NM_01727 9	E03358ccs cDNA encoding rat polyfunctional protease component C3	
E03428	2371	CAA42 210	2372 XM_03112 1	2373 XP_031 121	2374 75	peptidylglycin- alpha- amidating monoxygenase	X59689	E03428ccs cDNA sequence encoding rat peptidylglycin-alpha-amidating monoxygenase	
E06822	2375	BAA033 17	2376 NM_0037 39	2377 P42330	2378 70	20-alpha- hydroxysteroid dehydrogenase	D14424	E06822ccs cDNA encoding 20 alpha-HSD(20 alpha-hydroxysteroid dehydrogenase)	
E12625	2379	BAA233 29	2380 NM_0067 45	2381 Q15800	2382 cdNA	encoding a rat novel protein which is expressed with nerve injury: (this is RANP-1 protein)	D50559	E12625ccs cDNA encoding a rat novel protein which is expressed with nerve injury	
E12829	2383	BAA134 32	2384 48	NM_0184 2385	NP_060 918	2386 94	TIP120 (TATA binding protein)	D87671	E12829ccs cDNA encoding novel rat protein TIP120 which is formed of complex with TBP
J01435	2387	No human homolo- g found.	No Human Protein Found.				Mitochondrial genome - cytochrome oxidase	J01435ccs#1 RATMTCYOS Rattus nonvegicus mitochondrial cytochrome oxidase subunits I,II, III genes, ATPase subunit 6 gene, Tri-Ala-Asn-Cys-. Tyr-, Ser(ucn)-, Asp-, Lys-, Gly-, Arg-, His-, Ser(agy)-, Leu(cun)-tRNAs	

Table 2.

J01435	2388	No human homolog found.	No Human Protein Found.	Mitochondrial cytochrome oxidase	J01435cds#4 RATMTCYOS Rattus norvegicus mitochondrial cytochrome oxidase subunits I,II, III genes, ATPase subunit 6 gene, Trp-,Ala-,Asn-,Cys-, Tyr-, Ser(ucn)-, Asp-, Lys-,Gly-, Arg-, His-, Ser(ayg)-, Leu(cun)-tRNAs						
J01436	2389	AAA999907	2390	No human homolog found.	No Human Protein Found.	Mitochondrial cytochrome B gene					
J02596	2391	AAA40746	2392	NM_000040	P02656	2394	44	apolipoprotein C-III	J02596cds RATAPOA02 Rat apolipoprotein C-III gene, complete cds	J02612mRNA RATUDPGT Rat UDP-glucuronosyltransferase mRNA, complete cds	Microsomal "UDP-glucuronosyltranferase 1-6 precursor, microsomal (EC 2.4.1.17)(UDPGT) (UGT1*6) (UGT1-06) (UGT1.6) (UGT1A6) (A1) (P-nitrophenolspecific)."
J02612	2395	P08430	2396	AV683870	2397	P22310	2398	88.71	UDP-glucuronosyltransferase 1 family, member 1	J02612mRNA RATUDPGT Rat UDP-glucuronosyltransferase mRNA, complete cds	Microsomal "UDP-glucuronosyltranferase 1-6 precursor, microsomal (EC 2.4.1.17)(UDPGT) (UGT1*6) (UGT1-06) (UGT1.6) (UGT1A6) (A1) (P-nitrophenolspecific)."
J02669	2399	P11711	2400	U22028	2401	Q16696	2402	71	Cytochrome P450 IIA1 (hepatic steroid hydroxylase IIA1) gene	J02669 Rat cytochrome P-450a (3-methylchianthrene-inducible; with high testosterone 7-alpha activity), mRNA, complete cds /cds=(19,1497) /gb=J02669 /gi=203766 /ug=Rn.10904 /len=1687	Membrane-bound. Endoplasmic reticulum. Steroid hormones 7-alpha-hydroxylase (Testosterone 7-alpha-hydroxylase) (P450-UT-F).
J02722	2403	AAA41346	2404	NM_002133	2405	P09801	2406	79	Heme oxygenase	J02722cds RATHOXA Rat heme oxygenase gene, complete cds	

Table 2.

J02749	2407	P21775	2408	X12966	2409	P09110	2410	86	Acetyl-CoA acyltransferase, 3-oxo acyl-CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205096 /ug=Rn.8913 /len=1580	Peroxisomal "3-ketoacyl-CoA thiolase A, peroxisomal precursor (EC 2.3.1.16) (Beta-Ketothiolase A) (Acetyl-CoA acyltransferase A) (Peroxisomal 3-oxoacyl-CoA thiolase A)."
J02749	2411	P21775	2412	X12966	2413	P09110	2414	86	Acetyl-CoA acyltransferase, 3-oxo acyl-CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205096 /ug=Rn.8913 /len=1580	Peroxisomal "3-ketoacyl-CoA thiolase A, peroxisomal precursor (EC 2.3.1.16) (Beta-Ketothiolase A) (Acetyl-CoA acyltransferase A) (Peroxisomal 3-oxoacyl-CoA thiolase A)."
J02773	2415	P07483	2416	NM_004102	2417	P05413	2418	85.68	Heart fatty acid binding protein	J02773 Rat low molecular weight fatty acid binding protein mRNA, complete cds /cds=(36,437) /gb=J02773 /gi=204077 /ug=Rn.4147 /len=666	Cytoplasmic "Fatty acid-binding protein, heart (H-FABP);"

Table 2.

J02776	2419	P06766	2420	M13140	2421	P06746	2422	89.55	DNA polymerase beta.	J02776 Rat DNA polymerase beta (EC 2.7.7.7).
J02791	2423	P08503	2424	M16827	2425	P11310	2426	83.24	Acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight-chain	J02791 Rat acyl coenzyme A dehydrogenase, medium chain mRNA, complete cds /cds=(25,1290) /gb=J02791 /gi=202688 /ug=Rn.6302 /len=1866
J02827	2427	P11960	2428	M22221	2429	P12694	2430	88.54	branched chain alpha-ketoacid dehydrogenase	J02827 Rat branched chain alpha-ketoacid dehydrogenase E1-alpha subunit mRNA, 3' end /cds=(0,1325) /gb=J02827 /gi=203120 /ug=Rn.3489 /len=1639

Table 2.

J02827	2431	P11960	2432	M22221	2433	P12694	2434	88.54	branched chain alpha-ketoacid dehydrogenase	J02827 Rat branched chain alpha-ketoacid dehydrogenase E1-alpha subunit mRNA, 3 end /cds=(0, 1325) /gb=J02827 /gi=203120 /ug=Rn.3489 /len=1639	Mitochondrial "2-oxoisovalerate dehydrogenase alpha subunit, mitochondrial precursor(EC 1.2.4.4) (Branched-chain alpha-keto acid dehydrogenase componentalpha chain (E1)) (BCKDH E1-alpha) (Fragment)."
J02844	2435	P11466	2436	AF168793	2437	Q9UKG9	2438	84	Carnitine octanoyltransferase	J02844 RATCOTA Rat carnitine octanoyltransferase mRNA, complete cds	Peroxisomal carnitine octanoyltransferase [EC 2.3.1.-] (COT).
J02962	2439	P08699	2440	M57710	2441	P17931	2442	89.81	IgE binding protein	J02962 Rat IgE binding protein mRNA, complete cds /cds=(40, 828) /gb=J02962 /gi=203173 /ug=Rn.764 /len=948	Galectin-3 (Galactose-specific lectin 3) (MAC-2 antigen) (IgE-binding protein) (35 kDa lectin) (Carbohydrate binding protein 35) (CBP 35) (Laminin-binding protein) (Lectin L-29).
J03179	2443	P16443	2444	D28468	2445	Q10586	2446	86.35	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(367, 1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622	Nuclear. D-site-binding protein (Albumin D box-binding protein) (D site albumin promoter binding protein 1).

Table 2.

J03179	2447	P16443	2448	D28468	2449	Q10556	2450	86.35	D-binding protein		J03179 Rat D-binding protein mRNA, complete cds /cds=(367,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622	Nuclear.
J03190	2451	P13195	2452	X56351	2453	P13196	2454	87.17	Rat 5-aminolevulinate synthase mRNA		J03190 Rat 5-aminolevulinate synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203067 /ug=Rn.6274 /len=2052	Mitochondrial "5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor(EC 2.3.1.37) (Delta-aminolevulinate synthase) (Delta-ALA synthetase)(ALAS-H)."
J03190	2455	P13195	2456	X56351	2457	P13196	2458	87.17	5-aminolevulinate synthase		J03190 Rat 5-aminolevulinate synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203067 /ug=Rn.6274 /len=2052	Mitochondrial "5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor(EC 2.3.1.37) (Delta-aminolevulinate synthase) (Delta-ALA synthetase)(ALAS-H)."
J03190												

Table 2.

J03190	2459	P13195	2460	X56351	2461	P13196	2462	87.17	Rat 5-aminolevulinate synthase mRNA	J03190 Rat 5-aminolevulinate synthase mRNA, complete cds /cds=(17, 1945) /gb=J03190 /gi=203067 /ug=Rn.6274 /len=2052	Mitochondrial "5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor(EC 2.3.1.37) (Delta-aminolevulinate synthase) (Delta-ALA synthetase)(ALAS-H)."
J03190	2463	P13195	2464	X56351	2465	P13196	2466	87.17	5-aminolevulinate synthase	J03190 Rat 5-aminolevulinate synthase mRNA, complete cds /cds=(17, 1945) /gb=J03190 /gi=203067 /ug=Rn.6274 /len=2052	Mitochondrial "5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor(EC 2.3.1.37) (Delta-aminolevulinate synthase) (Delta-ALA synthetase)(ALAS-H)."
J03481	2467	P11348	2468	BC000576	2469	P09417	2470	88.33	dihydropteridine reductase	J03481mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (DHPR) (Quinoiddihydro pteridine reductase).
J03481	2471	P11348	2472	BC000576	2473	P09417	2474	88.33	dihydropteridine reductase	J03481mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (DHPR) (Quinoiddihydro pteridine reductase).

Table 2.

J03481	2475	P11348	2476	BC000576	2477	P09417	2478	88.33	dihydropteridine reductase	J03481mRNA RATDTTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoidihydro pteridine reductase).
J03481	2479	P11348	2480	BC000576	2481	P09417	2482	88.33	dihydropteridine reductase	J03481mRNA RATDTTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoidihydro pteridine reductase).
J03572	2483	P08289	2484	XM_001826	2485	XP_001826	2486	91	Alkaline phosphatase	J03572 Rat alkaline phosphatase mRNA, complete cds /cds=(152,1726) /gb=J03572 /gi=206122 /ug=Rn.6877 /len=2415	"Attached to the membrane by a GPI-anchor."
J03588	2487	P10868	2488	Z49878	2489	Q14353	2490	84.06	guanidinoacetate methyltransferase mRNA	J03588 Rat guanidinoacetate methyltransferase mRNA, complete cds /cds=(51,761) /gb=J03588 /gi=204435 /ug=Rn.1983 /len=924	"Guanidinoacetate N-methyltransferase (EC 2.1.1.2)."
J03621	2491	P13086	2492	BM72366	2493	AAD1794	2494	99.68	Succinyl-CoA synthetase alpha subunit	J03621 Rat mitochondrial succinyl-CoA synthetase alpha subunit (cytoplasmic precursor) mRNA, complete cds /cds=(490,1491) /gb=J03621 /gi=204355 /ug=Rn.3766 /len=1684	"Mitochondrial "Succinyl-CoA ligase [GDP-forming] alpha-chain, mitochondrial precursor(EC 6.2.1.4) (Succinyl-CoA synthetase, alpha chain) (SCS-alpha)." -

Table 2.

J03621	2495	P13086	2496	BM72366	2497	AAD179	2498	99.68	Succinyl-CoA synthetase alpha subunit	U75393	J03621 Rat mitochondrial succinyl-CoA synthetase alpha subunit (cytoplasmic precursor) mRNA, complete cds /cds=(490,1491) /gb=J03621 /gi=204355 /ug=Rn.3766 /len=1684	Mitochondrial	"Succinyl-CoA ligase [GDP-forming] alpha-chain, mitochondrial precursor(EC 6.2.1.4), (Succinyl-CoA synthetase, alpha chain) (SCS-alpha)."
J03754	2499	P11506	2500	L00620	2501	Q01814	2502	91.14	plasma membrane Ca2+ ATPase	AA955388	J03754 CompleteSeq Rat plasma membrane Ca2+ ATPase-isoform 2 mRNA, complete cds /cds=UNKNOWN /gb=J03754 /gi=203048 /ug=Rn.11280 /len=7025	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 2 (EC 3.6.3.8) (PMCA2)(Plasma membrane calcium pump isoform 2)
J03754	2503	P11506	2504	L00620	2505	Q01814	2506	91.14	ATPase isoform 2, Na+K+ transporting, beta polypeptide 2		J03754 CompleteSeq Rat plasma membrane Ca2+ ATPase-isoform 2 mRNA, complete cds /cds=UNKNOWN /gb=J03754 /gi=203048 /ug=Rn.11280 /len=7025	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 2 (EC 3.6.3.8) (PMCA2)(Plasma membrane calcium pump isoform 2)
J03773	2507	P19627	2508	J03260	2509	P19086	2510	92.16	Guanine nucleotide binding protein, alpha		J03773 Rat guanine nucleotide-binding regulatory protein alpha subunit mRNA, complete cds /cds=(14,1081) /gb=J03773 /gi=204546 /ug=Rn.10943 /len=1529	Membrane-bound.	"Guanine nucleotide-binding protein G(z), alpha subunit (Gx) alpha chain) (Gz-alpha)."

Table 2.

J03867	2511	P20070	2512	M16462	2513	P00387	2514	86.48	NADH-cytochrome b-5 reductase	J03867 Rat NADH-cytochrome b-5 reductase mRNA, complete cds /cds=(33,938) /gb=J03867 /gi=203696 /ug=Rn.11644 /len=1348	THE ENZYME EXISTS IN TWO FORMS: A MEMBRANE BOUND FORM ON THE CYTOPLASMIC SIDE OF THE ENDOPLASMIC RETICULUM AND IN SOLUBLE FORM IN ERYTHROCYTES.	NADH-cytochrome b5 reductase (EC 1.6.2.2).
J03886	2515	P20689	2516	BCC07753	2517	NP_149109	2518	89.53	Rat skeletal muscle myosin light chain kinase, complete cds	J03886 Rat skeletal muscle myosin light chain kinase, complete cds /cds=(59,1891) /gb=J03886 /gi=205496 /ug=Rn.9685 /len=2799	"Myosin light chain kinase, skeletal muscle (EC 2.7.1.117) (MLCK)."	
J03969	2519	P13084	2520	AL135691	2521	NP_002511	2522	96.32	nucleolar protein B23	J03969 Rat nucleolar protein B23 mRNA, complete cds /cds=(46,924) /gb=J03969 /gi=203081 /ug=Rn.3339 /len=1232	"NUCLEAR GENERALLY NUCLEOLAR, BUT IS TRANSLOCATED TO THE NUCLEOPLASM IN CASE OF SERUM STARVATION OR TREATMENT WITH ANTICANCER DRUGS."	Nucleophosmin (NPM) (Nucleolar phosphoprotein B23), (Numatrin)(Nucleolar protein NO38).

Table 2.

J04035	2523	Q99372	2524	M17282	2525	EAHU	65	Tropoelastin	J04035 Rat tropoelastin mRNA, 3' end /cds=(0,254) /gb=J04035 /gi=207442 /ug=Rn.11300 /len=1211	EXTRACELLULAR MATRIX OF ELASTIC FIBERS.	Elastin precursor (Tropoelastin) (Fragment).	
J04063	2526	P11730	2527	BC021269	2528	XP_044348	94.41	Rat calmodulin-dependent protein kinase II gamma subunit mRNA, complete cds	J04063 Rat calmodulin-dependent protein kinase II gamma subunit mRNA, complete cds /cds=(35,1618) /gb=J04063 /gi=206151 /ug=Rn.10961 /len=1728		Calcium/calmodulin-dependent protein kinase type II gamma chain (EC2.7.1.123) (CaM-kinase II gamma chain) (CaM kinase II gamma subunit)(CaMK-II gamma subunit).	
J04187	2529	P15149	2530	U22028	2531	Q16696	2532	67	Cytochrome P450 II A2	J04187 Rat cytochrome P450 II A2 protein (CYP2A2) mRNA, complete cds /cds=(9,1487) /gb=J04187 /gi=204901 /ug=Rn.9867 /len=2259	Membrane-bound Endoplasmic reticulum.	Cytochrome P450 2A2 (EC 1.14.14.1) (CYP1A2) (Testosterone 15-alpha-hydroxylase) (P450-UT-4).
J04486	2533	P12843	2534	M35410	2535	P18065	2536	89	Insulin-like growth factor binding protein 2	J04486 Rat insulin growth factor-binding protein mRNA, complete cds /cds=(263,1177) /gb=J04486 /gi=203175 /ug=Rn.6813 /len=1482	Secreted.	Insulin-like growth factor binding protein 2 precursor (IGFBP-2)(IBP-2)(IGF-binding protein 2) (BRL-BP).
J04486	2537	P12843	2538	M35410	2539	P18065	2540	89	Insulin-like growth factor binding protein 2	J04486 Rat insulin growth factor-binding protein mRNA, complete cds /cds=(263,1177) /gb=J04486 /gi=203175 /ug=Rn.6813 /len=1482	Secreted.	Insulin-like growth factor binding protein 2 precursor (IGFBP-2)(IBP-2)(IGF-binding protein 2) (BRL-BP).

Table 2.

J04503	2541	P20650	2542	S87759	2543	P35813	2544	93.69	protein phosphatase 2c.		J04503 Rat protein phosphatase 2c mRNA, complete cds /cds=(87,1235) /gb=J04503 /gi=206312 /ug=Rn.4553 /len=1602	Protein phosphatase 2C alpha isoform (EC 3.1.3.16) (PP2C-alpha) (IA)(Protein phosphatase 1A).
J04503	2545	P20650	2546	S87759	2547	P35813	2548	93.69	protein phosphatase 2c.		J04503 Rat protein phosphatase 2c mRNA, complete cds /cds=(87,1235) /gb=J04503 /gi=206312 /ug=Rn.4553 /len=1602	Protein phosphatase 2C alpha isoform (EC 3.1.3.16) (PP2C-alpha) (IA)(Protein phosphatase 1A).
J04791	2549	NP_036747	2550	NM_002539	2551	P11926	2552	91	Ornithine decarboxylase (ODC)		J04791 RATODCAB Rattus norvegicus ornithine decarboxylase (ODC) mRNA, complete cds	
J04792	2553	AAA66286	2554	NM_002539	2555	P11926	2556	82	Ornithine decarboxylase		J04792 Rattus norvegicus ornithine decarboxylase (ODC) gene, complete cds /cds=(0,1385) /gb=J04792 /gi=205805 /ug=Rn.874 /len=2102	
J04793	2557	AAA40800	2558	NM_000342	2559	P02730	2560	75	Rat Band 3 mRNA encoding kidney band 3 Cl-HW-3-anion exchanger		J04793 Rat Band 3 mRNA encoding kidney band 3 Cl-HW-3-anion exchanger /cds=(0,2546) /gb=J04793 /gi=203092 /ug=Rn.20529 /len=2547	
J04807	2561	NP_062003	2562	NM_000207	2563	P01308	2564	84	Rattus norvegicus Insulin 2	NM_01913 0	J04807mRNA RATINSIIA Rat insulin II gene mRNA, 3' end	

Table 2.

J04943	2565	P13084	2566	AL135691	2567	AAH125 66	2568	96.32	nucleolar protein B23.2	J04943 Rat nucleolar protein B23.2 mRNA, complete cds, clone JH2 /cds=(75,848) /gb=J04943 /gi=203077 /ug=Rn.3539 /len=1164	"NUCLEAR, GENERALLY NUCLEOLA R, BUT IS TRANSLOC ATED TO THE NUCLEOPLA SM IN CASE OF SERUM STARVATIO N OR TREATMEN T WITH ANTICANCE R DRUGS."	Nucleophosmin (NPM) (Nucleolar phosphoprotein B23), (Numatrin)(Nucl eolar protein NO38).
J05022	2569	P20717	2570	BC009701	2571	Q9Y28	2572	88.67	Peptidyl arginine deiminase, type II	J05022 Rat peptidylarginine deiminase mRNA /cds=(60,2057) /gb=J05022 /gi=205959 /ug=Rn.2642 /len=4507	Protein-arginine deiminase type II (EC 3.5.3.15) (Peptidylarginin eiminase II).	
J05029	2573	P15650	2574	M74096	2575	P28330	2576	85.01	Acyl Coenzyme A dehydrogenas e, long chain	J05029 RATACOADA Rat long chain acyl- CoA dehydrogenase (LCAD) mRNA, complete cds	Mitochondrial matrix.	
J05031	2577	P12007	2578	AK022777	2579	P26440	2580	90.77	Rat isovaleryl- CoA dehydrogenas e (IVD)	J05031 Rat isovaleryl-CoA dehydrogenase (IVD) mRNA, complete cds /cds=(15,1289) /gb=J05031 /gi=204981 /ug=Rn.147 /len=2104	Mitochondrial matrix: "isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(IVD). "	

Table 2.

J05031	2581	P12007	2582	AK022777	2583	P26440	2584	90.77	Rat isovaleryl-CoA dehydrogenase (IVD)	J05031 Rat isovaleryl-CoA dehydrogenase (IVD) mRNA, complete cds /cds=(15,1289) /gb=J05031 /gi=204981 /ug=Rn.147 /len=2104	Mitochondrial "isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(IVD)."
J05035	2585	P24008	2586	NM_001047	2587	P18405	2588	63	Steroid 5 alpha-reductase	J05035 RATS5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal intracellular membrane.
J05035	2589	P24008	2590	NM_001047	2591	P18405	2592	63	Steroid 5 alpha-reductase	J05035 RATS5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal intracellular membrane.
J05035	2593	P24008	2594	NM_001047	2595	P18405	2596	63	Steroid 5 alpha-reductase	J05035 RATS5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal intracellular membrane.
J05035	2597	P24008	2598	NM_001047	2599	P18405	2600	63	Steroid 5 alpha-reductase	J05035 RATS5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal intracellular membrane.

Table 2.

J05087	2601	AAA696 67	2602	NM_0016 82	2603	P20020	2604	74	Calmodulin-sensitive plasma membrane Ca2+-transporting ATPase (PMCA3)	J05087 Rat calmodulin-sensitive plasma membrane Ca2+-transporting ATPase (PMCA3) mRNA, complete cds /cds=UNKNOWN /gb=J05087 /gi=203050 /ug=Rn.11053 /len=5084		
J05122	2605	P16257	2606	XM_04016 7	XP_040 167		79	Benzodiazepin receptor (peripheral)	NM_01251 5	J05122 Rat peripheral-type benzodiazepine receptor (PKBS) mRNA, complete cds /cds=(34,543) /gb=J05122 /gi=206161 /ug=Rn.1820 /len=781	MITOCHONDRIAL INTEGRAL MEMBRANE PROTEIN.	Peripheral-type benzodiazepine receptor (PBR) (Mitochondrial benzodiazepine receptor).
J05166	2607	P23347	2608	U76667	2609	AAF195 83	2610	78	Anion exchanger (B3RP2)	J05166 Rat band 3 Cl-/HCO3- exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.98860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non-erythroid band 3-like protein) (B3RP).
J05166	2611	P23347	2612	XM_00467 8	XP_004 678		78	Cl-/HCO3-exchanger (B3RP2)	J05166 Rat band 3 Cl-/HCO3- exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.98860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non-erythroid band 3-like protein) (B3RP).	
J05166	2613	P23347	2614	U76667	2615	AAF195 83	2616	78	Anion exchanger (B3RP2)	J05166 Rat band 3 Cl-/HCO3- exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.98860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non-erythroid band 3-like protein) (B3RP).
J05166	2617	P23347	2618	XM_00467 8	XP_004 678		78	Cl-/HCO3-exchanger (B3RP2)	J05166 Rat band 3 Cl-/HCO3- exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.98860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non-erythroid band 3-like protein) (B3RP).	
J05210	2619	P16638	2620	X64330	2621	P53396	2622	90.47	ATP citrate lyase	J05210 Rat ATP citrate-lyase mRNA, complete cds /cds=(72,3374) /gb=J05210 /gi=949999 /ug=Rn.996 /len=4269	Cytoplasmic.	ATP-citrate (pro-S)-lyase (EC 4.1.3.8) (Citrate cleavage enzyme).

Table 2.

J05210	2623	P16638	2624	X64330	2625	P53396	2626	90.47	ATP citrate lyase	J05210 Rat ATP citrate-lyase mRNA, complete cds /cds=(72,3374) /gb=J05210 /gi=949989 /ug=Rn.996 /len=4269	Cytoplasmic.
J05405	2627	P23711	2628	D21243	2629	P30519	2630	89	Heme oxygenase-2 non-reducing isoform	J05405mRNA RATHO2 Rat heme oxygenase-2 (HO2) mRNA, complete cds	Microsomal. Heme oxygenase 2 (EC 1.14.99.3) (HO-2).
J05405	2631	P23711	2632	D21243	2633	P30519	2634	89	Heme oxygenase-2 non-reducing isoform	J05405mRNA RATHO2 Rat heme oxygenase-2 (HO2) mRNA, complete cds	Microsomal. Heme oxygenase 2 (EC 1.14.99.3) (HO-2).
J05470	2635	P18886	2636	M53581	2637	P23786	2638	85.95	mitochondrial carnitine palmitoyltransferase II (CPT II)	J05470 Rat mitochondrial carnitine palmitoyltransferase II (CPT II) mRNA, complete cds /cds=(62,2038) /gb=J05470 /gi=203579 /ug=Rn.11389 /len=2296	Mitochondria inner membrane.
J05510	2639	P29994	2640	D26070	2641	Q14633	2642	90.22	Rat inositol-1,4,5-triphosphate receptor mRNA	J05510 Rat inositol-1,4,5-triphosphate receptor mRNA, complete cds /cds=(329,8578) /gb=J05510 /gi=204673 /ug=Rn.2135 /len=9852	"Inositol 1,4,5-triphosphate receptor type 1 (Type 1 inositol 1,4,5-triphosphate receptor) (Type 1 InsP3 receptor) (IP3 receptor isoform1) (InsP3R1) (IP-3-R)."
J05592	2643	P19103	2644	U48707	2645	Q13522	2646	90	Phosphatase inhibitor-1 protein	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619	Protein phosphatase inhibitor 1 (IPP-1) (I-1).
J05592	2647	P19103	2648	U48707	2649	Q13522	2650	90	Phosphatase inhibitor-1 protein mRNA	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619	Protein phosphatase inhibitor 1 (IPP-1) (I-1).

Table 2.

J05592	2651	P19103	2652	U48707	2653	Q13522	2654	90	Phosphatase inhibitor-1 protein		Protein phosphatase inhibitor 1 (IPP-1) (I-1).
J05592	2655	P19103	2656	U48707	2657	Q13522	2658	90	Phosphatase inhibitor-1 protein mRNA	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619	Protein phosphatase inhibitor 1 (IPP-1) (I-1).
J05677	2659	AAA41200	2660	NM_000907	2661	P20594	2662	60	Guanylyl cyclase Atrial natriuretic peptide receptor (GC-A)	J05677mRNA RATGCA Rat guanyl cyclase A/atrial natriuretic peptide receptor (GC-A) gene, complete cds	
K00512	2663	P02688	2664	XM_040888	XP_040888				Myelin basic protein (mbp) gene mRNA	K00512 rat myelin basic protein (mbp) gene mRNA /cds=UNKNOWN /gb=K00512 /gi=205320 /ug=Rn.9672 /len=1494	Cytoplasmic side of myelin.
K00750	2665	AAA21711	2666	NM_018947	2667	P00001	2668	91	chrome c nuclear-encoded mitochondrial gene and flanks	A1008815 K00750exon#2-3 RATCYC Rat (Sprague-Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks	Myelin basic protein S (MBP S).
K00750	2669	AAA21711	2670	NM_018947	2671	P00001	2672	91	Cytochrome C, expressed in somatic tissues	K00750exon#2-3 RATCYC Rat (Sprague-Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks	
K00750	2673	AAA21711	2674	NM_018947	2675	P00001	2676	91	Cytochrome C, expressed in somatic tissues	K00750exon#2-3 RATCYC Rat (Sprague-Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks	
K00750	2677	AAA21711	2678	NM_018947	2679	P00001	2680	91	chrome c nuclear-encoded mitochondrial gene and flanks	A1008815 K00750exon#2-3 RATCYC Rat (Sprague-Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks	

Table 2.

K00750	2681	AAA217 11	2682	NM_0189 47	2683	P00001	2684	91	Cytochrome C, expressed in somatic tissues	K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2685	AAA217 11	2686	NM_0189 47	2687	P00001	2688	91	Cytochrome C, expressed in somatic tissues	K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00994	2689	AAA408 43	2690	NM_0040 57	2691	P29377	2692	75	Intestinal calcium binding protein	K00994mRNA RATCABP Rat intestinal calcium-binding protein (icabp) gene 2, 3 end and flank
K01932	2693	P04904	2694	NM_0008 47	2695	Q16772	2696	89.73	Glutathione S- transferase Yc subunit	K01932 Rat liver glutathione S-transferase Yc subunit mRNA, complete cds /cds=(44,709) /gb=K01932 /gi=204516 /ug=Rn.10460 /len=959
K02248	2697	AAA421 61	2698	NM_0010 48	2699	NP_001 039	2700	85	Somatostatin- 14 gene, complete cds	K02248cds RATSM141 Rat somatostatin- 14 gene, complete cds
K02423	2701	AAA985 33	2702	XM_03082 3	2703	XP_030 823	2704	85	Myosin light chain	K02423cds RATMLC131 Rat fast myosin alkali light chain exon 1, specific for MLC1-f
K02815	2705	S04363		M117847	2706	P01907	2707	87.59	Rat mRNA for RT1-B- 1(alpha) chain of integral membrane protein	K02815 Rat MHC RT1-B region class II (1a antigen) A-alpha glycoprotein mRNA (haplotype Rt1-u) /cds=(0,390) /gb=K02815 /gi=205407 /ug=Rn.6100 /len=681
K03045	2708	AAB069 55								K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5
K03045	2712	AAB069 55	2713	NM_0067 44	2714	P02753	2715	85	Retinol- binding protein	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5

Table 2.

K03242	2716	P06907	2717	AI557264	2718	P01037	2719	94.35	Rat Schwann cell peripheral myelin	Type I membrane protein.
									(P-0) mRNA, complete cds /cds=(31,777) /gb=K03242 /gi=205323 /ug=Rn.11403 /len=1029	"Myelin protein precursor (Myelin protein zero) (Myelin peripheral protein) (MPP)."
K03486	2720	P04410	2721	AK057555	2722	NP_002729	2723	94.74	protein kinase C type III	K03486 RATPKC32 Rat protein kinase C type III mRNA, 3' region
										"Protein kinase C, beta type (EC 2.7.1.-) (PKC-beta) (PKC-B)."
L00382	2724	AAA42289	2725	NM_003289	2726	P07951	2727	68	beta-tropomyosin and fibroblast tropomyosin 1	L00382 cds Rat skeletal muscle beta-tropomyosin and fibroblast tropomyosin 1 gene /cds=(0,854) /gb=L00382 /gi=207496 /ug=Rn.17580 /len=855
L01115	2728	Q03343	2729	AB007882	2730	O43306	2731	89.66	Adenylyl cyclase 6	L01115 Rattus norvegicus adenylyl cyclase type VI mRNA, complete cds /cds=(198,3698) /gb=L01115 /gi=202712 /ug=Rn.3313 /len=6036
										"Adenylyl cyclase, type VI (EC 4.6.1.) (ATP pyrophosphatase)(Ca(2+)-inhibitable adenylyl cyclase)."
L01793	2732	NP_112305	2733	NM_004130	2734	P46976	2735	83	Glycogenin	AF021343 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence
L01793	2736	AAB81219	2737	NM_004130	2738	P46976	2739	83	Glycogenin	AF021343 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence
L01793	2740	NP_112305	2741	NM_004130	2742	P46976	2743	83	Glycogenin	AF021343 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence
L01793	2744	AAB81219	2745	NM_004130	2746	P46976	2747	83	Glycogenin	AF021343 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence
L02315	2748	A45982	2749	O00305	2750					L02315 Rattus norvegicus cDNA sequence, complete 5' and 3' UTR's /cds=UNKNOWN /gb=L02315 /gi=203126 /ug=Rn.9863 /len=3829
L02315	2751	A45982	2752	O00305	2753					L02315 Rattus norvegicus cDNA sequence, complete 5' and 3' UTR's /cds=UNKNOWN /gb=L02315 /gi=203126 /ug=Rn.9863 /len=3829

Table 2.

L03201	2754	Q02765	2755	M90696	2756	P25774	2757	76	Cathepsin S		L03201 Rattus norvegicus cathepsin S mRNA, complete cds /cds=(27, 1019) /gb=L03201 /gi=203649 /ug=Rn.11347 /len=1330	Lysosomal.	Cathepsin S precursor (EC 3.4.22.27).
L03294	2758	Q06000	2759	M15856	2760	P06858	2761	92	Lipoprotein lipase		L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174, 1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).
L03294	2762	Q06000	2763	M15856	2764	P06858	2765	92	Lipoprotein lipase		L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174, 1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).
L03294	2766	Q06000	2767	M15856	2768	P06858	2769	92	Lipoprotein lipase		L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174, 1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).
L03556	2770	P52949	2771	BC013682	2772	P20719	2773	98.1	Homeo box A5		L03556 Rat (clone RAHB2 8/10) hox1.3 protein (hox1.3) mRNA, 3' end /cds=(0,703) /gb=L03556 /gi=204643 /ug=Rn.10077 /len=985	Nuclear.	Homeobox protein Hox-A5 (Hox-1.3) (Fragment).
L03556	2774	P52949	2775	BC013682	2776	P20719	2777	98.1	Homeo box A5		L03556 Rat (clone RAHB2 8/10) hox1.3 protein (hox1.3) mRNA, 3' end /cds=(0,703) /gb=L03556 /gi=204643 /ug=Rn.10077 /len=985	Nuclear.	Homeobox protein Hox-A5 (Hox-1.3) (Fragment).
L04739	2778	AAA508	2779	M95542	2780	P20020	2781	56	plasma membrane calcium ATPase.		L04739cds RATPMCA1A Rattus norvegicus plasma membrane calcium ATPase isoform 1 gene, partial cds		GTP-binding protein ARD-1 (Fragment).
L04760	2782	P36407	2783	AF230399	2784	P36406	2785	90.54	Rat nucleotide binding protein		L04760 RATGUABIND Rat nucleotide binding protein mRNA, complete cds		GTP-binding protein ARD-1 (Fragment).
L04760	2786	P36407	2787	AF230399	2788	P36406	2789	90.54	Rat nucleotide binding protein		L04760 RATGUABIND Rat nucleotide binding protein mRNA, complete cds		GTP-binding protein ARD-1 (Fragment).
L05435	2790	Q02563	2791	BC000776	2792	NP_055664	2793	91.03	synaptic vesicle protein (SV2)		L05435 Rattus norvegicus synaptic vesicle protein (SV2) mRNA, complete cds /cds=(390,2627) /gb=L05435 /gi=207091 /ug=Rn.11264 /len=3844	SYNAPTIC VESICLE.	Synaptic vesicle protein 2 (SV2).

Table 2.

L05489	2794	Q06175	2795	M60278	2796	Q99075	2797	81	Diphtheria toxin receptor (heparin binding epidermal growth factor-like growth factor)	L05489 Rat heparin-binding EGF-like growth factor mRNA, complete cds /cds=(31,657) /gb=L05489 /gi=204289 /ug=Rn.10148 /len=1550	TYPE I MEMBRANE PROTEIN. MATURE HB-EGF IS RELEASED INTO THE EXTRACELLULAR SPACE AND PROBABLY BINDS TO A RECEPTOR.	Heparin-binding EGF-like growth factor precursor (HB-EGF) (HBEGF).
L05489	2798	Q06175	2799	M60278	2800	Q99075	2801	81	Diphtheria toxin receptor (heparin binding epidermal growth factor-like growth factor)	L05489 Rat heparin-binding EGF-like growth factor mRNA, complete cds /cds=(31,657) /gb=L05489 /gi=204289 /ug=Rn.10148 /len=1550	TYPE I MEMBRANE PROTEIN. MATURE HB-EGF IS RELEASED INTO THE EXTRACELLULAR SPACE AND PROBABLY BINDS TO A RECEPTOR.	Heparin-binding EGF-like growth factor precursor (HB-EGF) (HBEGF).
L05557	2802	AAB607	2803	J04027	2804	P20020	2805	57	Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds	L05557cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds		
L05557	2806	AAB607	2807	XMT_05235	2808	XP_052353	2809	98	plasma membrane calcium ATPase	L05557cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds		

Table 2.

L07073	2810	P53676	2811	AFF092092	2812	Q9Y2T2	2813	92.58	Clathrin-associated adaptor protein homolog (p47A) mRNA	L07073 Rat clathrin-associated adaptor protein homolog (p47A) mRNA, complete cds /cds=(43,1299) /gb=L07073 /gi=468379 /ug=Rn.10959 /len=2146	Adapter-related protein complex 3 mu 1 subunit (Mu-adapter complex 3A) (AP-3-adapter complex mu3A subunit) (Clathrin coat assembly protein AP47 homolog 1) (Clathrin coat associated protein AP47 homolog 1) (Golg
L07074	2814	P53678	2815	D38293	2816	P53677	2817	88.05	clathrin-associated adaptor protein	L07074 Rat clathrin-associated adaptor protein homolog (p47B) mRNA, complete cds /cds=(31,1287) /gb=L07074 /gi=468381 /ug=Rn.111007 /len=3295	COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC FACE OF COATED VESICLES LOCATED AT THE GOLGI COMPLEX.
L07736	2818	P32198	2819	BC0000185	2820	P50416	2821	82.27	Carnitine palmitoyltransferase 1 alpha, liver isoform	L07736 Rat carnitine palmitoyltransferase I mRNA, complete cds /cds=(102,2423) /gb=L07736 /gi=294520 /ug=Rn.2856 /len=4377	Mitochondrial "Carnitine O-palmitoyltransferase I, mitochondrial liver isoform(EC 2.3.1.21) (CPT I) (CPTI-L)."

Table 2.

L07925	2822	Q03386	2823	AB037729	2824	Q12967	2825	90.5	Ral guanine nucleotide dissociation stimulator	L07925 RATGNDSA Rattus rattus guanine nucleotide dissociation stimulator for a ras-related GTPase mRNA, complete cds	Ral guanine nucleotide dissociation stimulator (RalGEF) (RalGDS).
L07925	2826	Q03386	2827	AB037729	2828	Q12967	2829	90.5	Ral guanine nucleotide dissociation stimulator	L07925 RATGNDSA Rattus rattus guanine nucleotide dissociation stimulator for a ras-related GTPase mRNA, complete cds	Ral guanine nucleotide dissociation stimulator (RalGEF) (RalGDS).
L08228	2830	AAB509	2831	NM_0073	2832	Q05586	2833	90	Rattus norvegicus N-methyl-D-aspartate receptor (NMDAR1) gene, exons 1 through 22	L08228exon#22 RATNMDARI Rattus norvegicus N-methyl-D-aspartate receptor (NMDAR1) gene, exons 1 through 22	
L08490	2834	AAC42029	2835	NM_000806	2836	P14867	2837	90	Rattus rattus GABA-A receptor alpha-1 subunit gene	L08490cds RATGABAAA Rattus rattus GABA-A receptor alpha-1 subunit gene, complete cds	
L08595	2838	Q07917	2839	X75918	2840	P43354	2841	93.27	nuclear receptor	L08595 Rat nuclear receptor (RNR-1) mRNA, complete cds /cds=(111,1904) /gb=L08595 /gi=310215 /ug=Rn.9839 /len=2559	Orphan nuclear receptor NURR1 (NUR-related factor 1) (Regenerating liver nuclear receptor 1) (RNR-1) (SL-322) (Nuclear orphan receptorHZF-3).
L09653	2842	P38438	2843	XM_003094		XP_00309094		91	transforming growth factor-b type II receptor	L09653 Rattus norvegicus transforming growth factor-b type II receptor mRNA, complete cds /cds=(58,1761) /gb=L09653 /gi=207289 /ug=Rn.9854 /len=1792	TGF-beta receptor type II precursor (EC 2.7.1.37) (TGFR-2) (TGF-beta type II receptor).

Table 2.

L09656	2844	P51514	2845	NM_003205	2846	Q99081	2847	83	Rat salivary-specific cAMP response element-binding protein alpha	L09656 Rat salivary-specific cAMP response element-binding protein alpha mRNA, complete cds /cds=(203,2326) /gb=L09656 /gi=310225 /ug=Rn.9916 /len=2535	Nuclear.
L10073	2848	P35365	2849	NM_024012	2850	NP_076917	2851	69	5-hydroxytryptamine receptor	L10073 Rattus norvegicus 5-hydroxytryptamine receptor (5HT5b) mRNA, 5-end /cds=(302,1414) /gb=L10073 /gi=310074 /ug=Rn.10572 /len=2240	Integral membrane protein.
L10326	2852	P04894	2853	XM_009589	2854	XP_009589	2855	100	GTP-binding protein alpha subunit	L10326 Rattus norvegicus alternatively spliced GTP-binding protein alpha subunit (stimulatory) (GS-alpha) mRNA, complete cds /cds=(18,293) /gb=L10326 /gi=205609 /ug=Rn.31 /len=733	"Guanine nucleotide-binding protein G(S), alpha subunit (Adenylylategcyclicase-stimulating G alpha protein)."
L10362	2854	S34961	2855	AK000592	2856	93882191	2857	96.12	Rattus norvegicus synaptic vesicle protein 2B (SV2B) mRNA, complete cds	L10362 Rattus norvegicus synaptic vesicle protein 2B (SV2B) mRNA, complete cds /cds=(439,2490) /gb=L10362 /gi=207093 /ug=Rn.9940 /len=3660	
L10669	2858	AAA41253	2859	XM_050619	2860	XP_050619	2861	79	glycogen phosphorylase	L10669 RATGLYPHOB Rat glycogen phosphorylase muscle isozyme mRNA, partial cds	

Table 2.

L10669	2860	AAA412	2861	XM_05061 9	XP_050 619	79	glycogen phosphorylase	L10669 RATGLYPHOB Rat glycogen phosphorylase muscle isozyme mRNA, partial cds
L11002	2862	AAB477	2863	AB018299	2864	BAA344 76	2865	91.41 Ankyrin binding glycoprotein-1 related mRNA sequence
L11035	2866	No Rat Protein Found.	AF327018	2867	AAK273 60			L11035 RATTCAAXAS Rat T-cell receptor alpha chain mRNA for RT1L haplotype
L11319	2868	P42667	2869	AF090315	2870	P21378	2871	90.32 signal peptidase
L11319	2872	P42667	2873	AF090315	2874	P21378	2875	90.32 signal peptidase
L11694	2876	P38652	2877	BC019920	2878	P36871	2879	89.84 Phosphogluco mutase 1
L11930	2880	Q08163	2881	M98474	2882	Q01518	2883	95 Cyclase- associated protein homologue

L11002 Rat ankyrin binding glycoprotein-1
related mRNA sequence /cds=UNKNOWN
/gb=L11002 /gi=202922 /ug=Rn.3048
/len=5822

L11035 RATTCAAXAS Rat T-cell receptor
alpha chain mRNA for RT1L haplotype

L11319 Rat signal peptidase mRNA,
complete cds /cds=(74,613) /gb=L11319
/gi=206977 /ug=Rn.24875 /len=643

L11319 Rat signal peptidase mRNA,
complete cds /cds=(74,613) /gb=L11319
/gi=206977 /ug=Rn.24875 /len=643

L11694 Rattus norvegicus
phosphoglucomutase mRNA, complete cds

/cds=(43,1731) /gb=L11694 /gi=393212
/ug=Rn.9970 /len=1842

L11930 Rattus norvegicus cyclase-
associated protein homologue (MCH1)

mRNA, complete cds /cds=(21,1445)
/gb=L11930 /gi=310173 /ug=Rn.21389
/len=1460

Table 2.

L12025	2884	AAB807 67	2885	M24407	2886	P15151	2887	80.17	Tumor-associated glycoprotein pE4	L12025 Rattus norvegicus tumor-associated glycoprotein E4 (Tage4) mRNA, complete cds /cds=(65,1303) /gb=L12025 /gi=2506084 /ug=Rn.10677 /len=2171	
L12381	2888	P16500	2889	BE514791	2890	NP_001 649	2891	86.05	ADP-ribosylation factor 2	L12381 Rattus norvegicus ADP-ribosylation factor 2 mRNA, complete cds /cds=(120,665) /gb=L12381 /gi=438863 /ug=Rn.11263 /len=1700	ADP-ribosylation factor 2.
L12384	2892	P26437	2893	BI837414	2894	P26437	2895	95.06	ADP-ribosylation factor 5	L12384 Rattus norvegicus ADP-ribosylation factor 5 mRNA, complete cds /cds=(94,636) /gb=L12384 /gi=438869 /ug=Rn.10974 /len=1058	ADP-ribosylation factor 5.
L13151	2896	JT06633	2897	M23379	2898	P20936	2899	96	RAS p21 protein activator	L13151cds RATGAPX Rat GTPase-activating protein (GAP) gene, complete cds	
L13151	2900	JT06633	2901	M23379	2902	P20936	2903	96	RAS p21 protein activator	L13151cds RATGAPX Rat GTPase-activating protein (GAP) gene, complete cds	
L13406	2904	AAA414 79	2905	NM_0012 21	2906	Q13557	2907		Calcium/calmodulin-dependent protein kinase II delta subunit	L13406 RATKINDA Rattus norvegicus calcium/calmodulin-dependent protein kinase II delta subunit mRNA, partial cds	
L13406	2908	AAA414 79	2909	NM_0012 21	2910	Q13557	2911		Calcium/calmodulin-dependent protein kinase II delta subunit	L13406 RATKINDA Rattus norvegicus calcium/calmodulin-dependent protein kinase II delta subunit mRNA, partial cds	
L13619	2912	Q08755	2913	BC001880	2914	O15503	2915	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus insulin-induced growth-response protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6),

Table 2.

L13619	2916	Q08755	2917	BC001880	2918	O15503	2919	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).
L13619	2920	Q08755	2921	BC001880	2922	O15503	2923	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).
L13619	2924	Q08755	2925	BC001880	2926	O15503	2927	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).
L14462	2928	Q06195	2929	AC005944	2930	AAC721	2931	80	R-esp1	L14462 RATESP1A Rattus rattus R-esp1 mRNA, complete cds	"NUCLEAR, THOUGH SOME AUTHORS STATE THAT IT IS PROBABLY CYTOPLASMIC."

Table 2.

L14462	2932	Q06195	2933	AC005944	2934	AAC721	2935	80	R-esp1	L14462 RATESP1A <i>Rattus rattus</i> R-esp1 mRNA, complete cds	"NUCLEAR, THOUGH SOME AUTHORS STATE THAT IT IS PROBABLY CYTOPLAS MIC."	GRG protein (ESP1 protein) (Amino enhancer of split) (AES-1/AES-2).
L15011	2936	P41237	2937	BC024148	2938	No Human Protein Found.	93.75	Rattus nonvegicus neuron-specific cortexin		L15011 <i>Rattus nonvegicus</i> neuron-specific cortexin mRNA (cds=UNKNOWN /gb=L_15011 /gi=294534 /ug=Rn.9131 /len=1210	Cortexin.	
L15354	2939	Q63737	2940	AL117602	2941	Q13371	2942	88.28	Phosducin-like protein	L15354 RATPHLPA Rat phosducin-like protein (PhLP) mRNA, complete cds	Phosducin-like protein (PhLP).	
L15619	2943	P13862	2944	NM_001320	2945	P13862	2946	94.29	Casein kinase II beta subunit	L15619 Rat casein kinase II beta subunit (CK2) mRNA, complete cds /cds=(113,760) /gb=L_15619 /gi=415717 /ug=Rn.11095 /len=1944	Casein kinase II beta chain (CK II) (Phosvitin) (G5a).	
L15619	2947	P13862	2948	NM_001320	2949	P13862	2950	94.29	Casein kinase II beta subunit	L15619 Rat casein kinase II beta subunit (CK2) mRNA, complete cds /cds=(113,760) /gb=L_15619 /gi=415717 /ug=Rn.11095 /len=1944	Casein kinase II beta chain (CK II) (Phosvitin) (G5a).	
L16764	2951	Q07439	2952	BC002453	2953	P01842	2954	92.64	Heat shock protein 70-1	L16764 RATHSPT0A <i>Rattus norvegicus</i> heat shock protein 70 (HSP70) mRNA, complete cds	Heat shock 70 kDa protein 1/2 (HSP70.1/2).	

Table 2.

L17077	2955	AAA619 85	No human homolog found.	No Human Protein Found.	NGF-binding Ig rearranged H-chain mRNA, V-region, partial cds	L17077 RAT1NGFVH Rattus norvegicus NGF-binding Ig rearranged H-chain mRNA, V-region, partial cds	Cytoplasmic and nuclear.				
L17127	2956	P34067	2957	BC008314	2958	P28070	2959	92	proteasome RN3 subunit	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds	Proteasome subunit beta type 4 precursor (EC 3.4.25.1) (Proteasomebeta a chain) (Macropain beta chain) (Multicatalytic endopeptidase complex beta chain) (Proteasome chain 3) (RN3).
L17127	2960	P34067	2961	BC008314	2962	P28070	2963	92	proteasome RN3 subunit	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds	Proteasome subunit beta type 4 precursor (EC 3.4.25.1) (Proteasomebeta a chain) (Macropain beta chain) (Multicatalytic endopeptidase complex beta chain) (Proteasome chain 3) (RN3).
L17127	2960	P34067	2961	BC008314	2962	P28070	2963	92	proteasome RN3 subunit	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds	Proteasome subunit beta type 4 precursor (EC 3.4.25.1) (Proteasomebeta a chain) (Macropain beta chain) (Multicatalytic endopeptidase complex beta chain) (Proteasome chain 3) (RN3).

Table 2.

L17318	2964	B48013	2965	No human homolog found.	P24928	2966	36	Rattus norvegicus proline-rich proteoglycan (PRPG2) mRNA, complete cds /cds=(21,908) /gb=L17318 /gi=310199 /ug=Rn.9870 /len=1011	L17318 Rattus norvegicus proline-rich proteoglycan (PRPG2) mRNA, complete cds /cds=(21,908) /gb=L17318 /gi=310199 /ug=Rn.9870 /len=1011	
L18948	2967	P50116	2968	X06233	2969	P06702	2970	83.06 intracellular calcium-binding protein	L18948 Rattus norvegicus intracellular calcium-binding protein (MRP14) mRNA, complete cds /cds=(31,372) /gb=L18948 /gi=488156 /ug=Rn.6703 /len=494	Calgranulin B (Migration inhibitory factor-related protein 14)(MRP-14) (p14).
L19112	2971	g31014 9	U11814	2972	P21802	2973	97.74 Rat (clone R2(A3B)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds /cds=(0,1061) /gb=L19112 /gi=310150 /ug=Rn.12732 /len=1062	L19112 Rat (clone R2(B3C)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds /cds=(0,1061) /gb=L19112 /gi=310150 /ug=Rn.12732 /len=1062		
L19180	2974	S46217	2975	U35234	2976	2204414 A	2977	91.74 Protein tyrosine phosphatase, receptor type, D	L19180 Rat receptor-linked protein tyrosine phosphatase (PTP-P) mRNA, complete cds /cds=(30,4517) /gb=L19180 /gi=310201 /ug=Rn.117237 /len=5396	
L19180	2978	S46217	2979	U35234	2980	2204414 A	2981	91.74 Protein tyrosine phosphatase, receptor type, D	L19180 Rat receptor-linked protein tyrosine phosphatase (PTP-P) mRNA, complete cds /cds=(30,4517) /gb=L19180 /gi=310201 /ug=Rn.117237 /len=5396	

Table 2.

L19341	2982	P80201	2983	NM_0011 05	2984	Q04771	2985	94	activin type I receptor	L19341 Rattus norvegicus activin type I receptor mRNA, complete cds /cds=(147,1676) /gb=L19341 /gi=435431 /ug=Rn.10692 /len=1780	Type I membrane protein.	Activin receptor type I precursor (EC 2.7.1.37) (ACTR- I)(Serine/threoni- ne-protein kinase receptor R1) (SKR1) (TGF- Bsuperfamily receptor type I) (TSR-I).
L19699	2986	P36860	2987	M35416	2988	P11234	2989	95	Rat GTP- binding protein (ral B) mRNA, complete cds	L19699 Rat GTP-binding protein (ral B) mRNA, complete cds /cds=(64,684) /gb=L19699 /gi=310211 /ug=Rn.4586 /len=2074	Ras-related protein RAL-B.	
L19699	2990	P36860	2991	M35416	2992	P11234	2993	95	Rat GTP- binding protein (ral B) mRNA, complete cds	L19699 Rat GTP-binding protein (ral B) mRNA, complete cds /cds=(64,684) /gb=L19699 /gi=310211 /ug=Rn.4586 /len=2074	Ras-related protein RAL-B.	
L19998	2994	P17988	2995	L19999	2996	P50225	2997	74	Minoxidil sulfotransfера- se	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic. Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase (PST- 1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotrans- erase) (Minoxidil sulfotransferase).	

Table 2.

L19998	2998	P17988	2999	L19999	3000	P50225	3001	74	Minoxidil sulfotransferase	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=3101178 /ug=Rn.1507 /len=1227	Cytoplasmic. Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase) (PST-1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine-estersulfotransferase) (Minoxidil sulfotransferase).
L19998	3002	P17988	3003	L19999	3004	P50225	3005	74	Minoxidil sulfotransferase	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=3101178 /ug=Rn.1507 /len=1227	Cytoplasmic. Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase) (PST-1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine-estersulfotransferase) (Minoxidil sulfotransferase).
L19998											

Table 2.

L19998	3006	P17988	3007	L19999	3008	P50225	3009	74	Minoxidil sulfotransferase		Cytoplasmic.
									L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=3101178 /ug=Rn.1507 /len=1227	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase) (PST-1) (Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine-estersulfotransferase) (Minoxidil sulfotransferase).	
L20427	3010	Q63159	3011	AK056955	3012	Q9NZJ6	3013	84.87	Coenzyme Q (ubiquinone)	NM_019187	Mitochondrial matrix .
									L20427 Rattus norvegicus dihydroxypolyphenylbenzoate methyltransferase mRNA, complete cds /cds=(7,867) /gb=L20427 /gi=457371 /ug=Rn.3824 /len=1058	"Hexaprenyldihydroxybenzoate methyltransferase, mitochondrial precursor(EC 2.1.1.14) (Dihydroxyhexa prenylbenzoate methyltransferase) (3,4-dihydroxy-5-hexaprenylibenz oate methyltransferase) (DHBBmethyl"	
L20822	3014	Q08851	3015	NM_003164	3016	Q13190	3017	95	Syntaxin 5	L20822 Rattus norvegicus syntaxin 5 mRNA, complete cds /cds=(129,1034) /gb=L20822 /gi=349322 /ug=Rn.5782 /len=1608	ENDOPLASMIC RETICULUM-GOLGI INTERMEDIATE COMPARTMENT.
										Syntaxin 5.	

Table 2.

L20900	3018	I65309	3019	U37183	3020	Q05084	3021	91.45	Islet cell autoantigen 1, 69 kDa	L20900 Rattus norvegicus autoantigen p69 mRNA, complete cds /cds=(499,1941) /gb=L20900 /gi=437663 /ug=Rn.1379 /len=2084		
L21711	3022	AAA65445	3023	XM_039888		XP_039888		70	Galectin-5	L21711 PfALGT Rattus sp. (clone PbURF) galectin-5 mRNA, complete cds		
L21711	3024	AAA65445	3025	XM_039888		XP_039888		70	Galectin-5	L21711 PfALGT Rattus sp. (clone PbURF) galectin-5 mRNA, complete cds		
L22788	3026	P80020	3027	U19869	3028	P51161	3029	82.87	14 kDa bile acid-binding protein (I-BABP) mRNA	L22788 Rattus norvegicus 14 kDa bile acid-binding protein (I-BABP) mRNA, complete cds /cds=(48,434) /gb=L22788 /gi=349080 /ug=Rn.10008 /len=498	Cytoplasmic.	Gastrotrpin (GT) (ileal lipid-binding protein) (ILBP) (Intestinal 15kDa protein) (I-15P) (14 kDa bile acid binding protein) (I-BABP).
L23148	3030	P41135	3031	AA689598	3032	JC5396		91.74	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)	L23148 Rattus norvegicus inhibitor of DNA-binding, splice variant id1.25, complete cds /cds=(61,555) /gb=L23148 /gi=516116 /ug=Rn.2113 /len=1124	Nuclear.	DNA-binding protein inhibitor ID-1.
L23148	3033	P41135	3034	AA689598	3035	JC5396		91.74	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)	L23148 Rattus norvegicus inhibitor of DNA-binding, splice variant id1.25, complete cds /cds=(61,555) /gb=L23148 /gi=516116 /ug=Rn.2113 /len=1124	Nuclear.	DNA-binding protein inhibitor ID-1.
L23219	3036	P43425	3037	BC014466	3038	O60262	3039	87.25	Guanine nucleotide binding protein (G protein), gamma 7 subunit	L23219 Rattus norvegicus G protein gamma subunit (gamma7 subunit) mRNA, complete cds /cds=(240,449) /gb=L23219 /gi=349795 /ug=Rn.11335 /len=2897		Guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit.
L24051	3040	Q63398	3041	BG535341	3042	P02593	3043	95.54	transcription factor	L24051 Rattus norvegicus transcription factor (Olf-1) mRNA, complete cds /cds=(72,1784) /gb=L24051 /gi=398587 /ug=Rn.11257 /len=2222	Nuclear.	Transcription factor COE1 (OE-1) (O/E-1) (Olfactory neuronal transcription factor) (OLF-1).

Table 2.

L24207	3044	P04800	3045	J04813	3046	P20815	3047	85.96	Testosterone 6-beta-hydroxylase (CYP3A1)		L24207 Rattus norvegicus testosterone 6-beta-hydroxylase (CYP3A1) mRNA, complete cds /cds=(66,1574) /gb=L24207 /gi=401798 /ug=Rn.11291 /len=2015	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 3A1 (EC 1.14.14.1) (CYP3A1) (P450-FCN1).
L24207	3048	P04800	3049	J04813	3050	P20815	3051	85.96	Testosterone 6-beta-hydroxylase (CYP3A1)		L24207 Rattus norvegicus testosterone 6-beta-hydroxylase (CYP3A1) mRNA, complete cds /cds=(66,1574) /gb=L24207 /gi=401798 /ug=Rn.11291 /len=2015	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 3A1 (EC 1.14.14.1) (CYP3A1) (P450-FCN1).
L24776	3052	OKRTC B	3053	M34181	3054	P22694	3055	91	Tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds		L24776 Rattus norvegicus tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds /cds=(18,764) /gb=L24776 /gi=438879 /ug=Rn.24727 /len=1101		
L24776	3056	OKRTC B	3057	M34181	3058	P22694	3059	91	Tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds		L24776 Rattus norvegicus tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds /cds=(18,764) /gb=L24776 /gi=438879 /ug=Rn.24727 /len=1101		
L25331	3060	Q63321	3061	NM_0003 02	3062	Q02899	3063	87	Lysyl hydroxylase		L25331 Rattus norvegicus lysyl hydroxylase mRNA, complete cds /cds=(143,2329) /gb=L25331 /gi=409058 /ug=Rn.4445 /len=2987	MEMBRANE BOUND IN CISTERNAE OF ROUGH ENDOPLAS MIC RETICULUM (Lysyl hydroxylase 1) (LH1)."	Procollagen- lysine,2- oxoglutarate 5- dioxygenase 1 precursor(EC 1.14.11.4)
L25387	3064	AAA177 57	3065	D25328	3066	Q01813	3067	83	Phosphofructo kinase C (PFK C)		L25387 RATPHOPSIC Rat phosphofructokinase C (PFK-C) mRNA, complete cds		
L25387	3068	AAA177 57	3069	D25328	3070	Q01813	3071	83	Phosphofructo kinase C (PFK C)		L25387 RATPHOPSIC Rat phosphofructokinase C (PFK-C) mRNA, complete cds		
L25605	3072	P39052	3073	NM_0049 45	3074	P50570	3075	90	dynamin Ilaa and IIab		AA851887 L25605 Rat dynamin Ilaa and IIab mRNA, complete cds /cds=(111,2723) /gb=L25605 /gi=416395 /ug=Rn.11231 /len=3463	MICROTUBU LE- ASSOCIATE D.	Dynamin 2 (EC 3.6.1.50).

Table 2.

L25633	3076	P47940	3077	NM_0028 46	3078	Q16849	3079	27	Regulated endocrine-specific protein 18	L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /gi=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3080	P47940	3081	NM_0028 46	3082	Q16849	3083	27	Regulated endocrine-specific protein 18	L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /gi=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3084	P47940	3085	NM_0028 46	3086	Q16849	3087	27	Regulated endocrine-specific protein 18	L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /gi=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3088	P47940	3089	NM_0028 46	3090	Q16849	3091	27	Regulated endocrine-specific protein 18	L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /gi=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L26267	3092	Q63369	3093	AI265879	3094	XP_028 204	3095	88.46	nuclear factor kappa B p105 subunit	L26267 Rattus norvegicus nuclear factor kappa B p105 subunit mRNA, 3 end /cds=(0,1568) /gb=L26267 /gi=425471 /ug=Rn.2411 /len=2245	"NUCLEAR, BUT ALSO FOUND IN THE CYTOPLAS M IN AN INACTIVE FORM p84/NF-kappa-COMPLEX B1 p98) [Contains: INHIBITOR (Nuclear factor KAPPA-B) " NF-kappa-B p50 subunit] (Fragment).	Nuclear factor NF-kappa-B p105 subunit (DNA-binding factor KBF1) (EBP-1) (NF-kappa-B1 p84/NF-kappa-B1 p98) [Contains: INHIBITOR (Nuclear factor KAPPA-B) " NF-kappa-B p50 subunit] (Fragment).
L26268	3096	Q63073	3097	BC016759	3098	P31607	3099	95.57	BTG1; B cell translocation gene	L26268 Rattus norvegicus anti-proliferative factor (BTG1) mRNA, complete cds /cds=(0,515) /gb=L26268 /gi=1167495 /ug=Rn.1000 /len=1464	BTG1 protein (Anti-proliferative factor).	
L26268	3100	Q63073	3101	BC016759	3102	P31607	3103	95.57	BTG1; B cell translocation gene	L26268 Rattus norvegicus anti-proliferative factor (BTG1) mRNA, complete cds /cds=(0,515) /gb=L26268 /gi=1167495 /ug=Rn.1000 /len=1464	BTG1 protein (Anti-proliferative factor).	

Table 2.

L26986	3104	P40146	3105	M83533	3106	P40145	3107	91.14	Adenyl cyclase type VIII	L26986 Rat adenylyl cyclase type VIII mRNA, complete cds /cds=(776,4522) /gb=L26986 /gi=479017 /ug=Rn.10382 /len=4601	Integral membrane protein.	"Adenylate cyclase type VIII (EC 4.6.1.1) (ATP pyrophosphate-lyase)(Ca(2+)/C almodulin activated adenylyl cyclase)."
L27075	3108	No Rat Protein Found.	No human homolog found.	No Human Protein Found.					ATP-citrate lyase	L27075 Rat ATP-citrate lyase mRNA, exons 1-7 /cds=UNKNOWN /gb=L27075 /gi=436002 /ug=Rn.996 /len=13553		
L27112	3109	P49186	3110	L31951	3111	P45984	3112	93.85	Stress activated protein kinase alpha II	L27112 RATSAPKB Rattus norvegicus stress activated protein kinase alpha II mRNA, complete cds	Mitogen-activated protein kinase 9 (EC 2.7.1.-)(Stress-activatedprotein kinase JNK2) (C-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).	
L27112	3113	P49186	3114	L31951	3115	P45984	3116	93.85	Stress activated protein kinase alpha II	L27112 RATSAPKB Rattus norvegicus stress activated protein kinase alpha II mRNA, complete cds	Mitogen-activated protein kinase 9 (EC 2.7.1.-)(Stress-activatedprotein kinase JNK2) (C-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).	

Table 2.

L27421	3117	P36610	3118	NM_0142	3119	P36610	3120	89.39	neuronal calcium sensor (NCS-1)	L27421 Rattus norvegicus neuronal calcium sensor (NCS-1) mRNA, complete cds /gb=L27421 /gi=498031 /len=573 /ug=Rn.22392	"POST-SYNAAPTIC DENSITIES OF DENDRITES, AND IN THE PRE-SYNAPTIC NERVE TERMINAL AT NEUROMUSCULAR JUNCTIONS."	Neuronal calcium sensor 1 (NCS-1) (Frequenin homolog) (Frequenin-like protein) (Frequenin-like ubiquitous protein).
L27487	3121	Q63118	3122	U17473	3123	Q16602	3124	87.9	Rat calcitonin receptor-like receptor (CRLR) mRNA	NM_012711 L27487 Rat calcitonin receptor-like receptor (CRLR) mRNA /cds=UNKNOWN /gb=L27487 /gi=440339 /ug=Rn.11202 /len=385	Integral membrane protein.	Calcitonin gene-related peptide type 1 receptor precursor (CGRP type 1 receptor).
L27651	3125	AAA571	3126	AF210455	3127	AAD370	3128	86.28	Solute carrier family 22 (organic anion transporter), member 7	L27651 Rattus norvegicus liver-specific transport protein mRNA, complete cds /gb=L27651 /gi=529589 /len=1910 /cds=(73,1680) /ug=Rn.10009	L27651 Rattus norvegicus liver-specific transport protein mRNA, complete cds /gb=L27651 /gi=529589 /len=1910 /cds=(73,1680) /ug=Rn.10009	
L27651	3129	AAA571	3130	AF210455	3131	AAD370	3132	86.28	Solute carrier family 22 (organic anion transporter), member 7	L27651 Rattus norvegicus liver-specific transport protein mRNA, complete cds /gb=L27651 /gi=529589 /len=1910 /cds=(73,1680) /ug=Rn.10009	L27651 Rattus norvegicus liver-specific transport protein mRNA, complete cds /gb=L27651 /gi=529589 /len=1910 /cds=(73,1680) /ug=Rn.10009	

Table 2.

L27663	3133	P56222	3134	Z11933	3135	P20265	3136	POU domain, class 3, transcription factor 2	90.9	L27663 Rat DNA binding protein (Brn-2) mRNA sequence /cds=UNKNOWN /gb=L27663 /gi=443687 /ug=Rn.9866 /len=1814	Nuclear.	Nervous-system specific octamer binding transcription factor N-OCT 3(Brain-specific homeobox/POU domain protein 2) (BRN-2 protein).
L27663	3137	P56222	3138	Z11933	3139	P20265	3140	POU domain, class 3, transcription factor 2	90.9	L27663 Rat DNA binding protein (Brn-2) mRNA sequence /cds=UNKNOWN /gb=L27663 /gi=443687 /ug=Rn.9866 /len=1814	Nuclear.	Nervous-system specific octamer binding transcription factor N-OCT 3(Brain-specific homeobox/POU domain protein 2) (BRN-2 protein).
L27843	3141	NP_113767	3142	U43296	3143	XP_034503	3144	95.4	Protein tyrosine phosphatase 4a1	NM_031579	L27843 RATPRL1NP Rat tyrosine phosphatase (PRL-1) mRNA, complete cds	
L28801	3145	A56011	3146	U02619	3147	138414	3148	77	Rat transcription factor IIIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIIC alpha-subunit mRNA, complete cds /cds=(25,6471) /gb=L28801 /gi=4541176 /ug=Rn.11288 /len=6878		

Table 2.

L28801	3149	A56011	3150	U02619	3151	I38414	3152	77	Rat transcription factor IIIIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIIIC alpha-subunit mRNA, complete cds /cds=(25,6471)/gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L28801	3153	A56011	3154	U02619	3155	I38414	3156	77	Rat transcription factor IIIIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIIIC alpha-subunit mRNA, complete cds /cds=(25,6471)/gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L28801	3157	A56011	3158	U02619	3159	I38414	3160	77	Rat transcription factor IIIIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIIIC alpha-subunit mRNA, complete cds /cds=(25,6471)/gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L29281	3161	S50216	3162	M35663	3163	P19525	3164	62	Protein kinase, interferon-inducible double stranded RNA dependent	L29281 Rattus norvegicus initiation factor-2 kinase (eIF-2α) mRNA, complete cds /cds=(150,1691)/gb=L29281 /gi=466372 /ug=Rn.10022 /len=3808
L29373	3165	I59558								L29373 RATNOREPIN Rat NaCl-dependent norepinephrine transporter mRNA, partial cds

Table 2.

L31619	3168	Q05941	3169	X70297	3170	P36544	3171	87.81	C cholinergic receptor, nicotinic, alpha polypeptide 7 (neuronal nicotinic acetylcholine receptor alpha 7) (bungarotoxin alpha)	L31619 Rattus rattus nicotinic acetylcholine receptor alpha 7 subunit mRNA, complete cds /gb=L31619 /gi=468919 /ug=Rn.9698 /len=2105	Integral membrane protein.	"Neuronal acetylcholine receptor protein, alpha-7 chain precursor."
L31621	3172	P04757	3173	X53559	3174	P32297	3175	89.03	Rattus norvegicus nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	L31621 RATNARA Rattus rattus (clone: pPCA48E) nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	Integral membrane protein.	"Neuronal acetylcholine receptor protein, alpha-3 chain precursor."
L31621	3176	P04757	3177	X53559	3178	P32297	3179	89.03	Rattus norvegicus nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	L31621 RATNARA Rattus rattus (clone: pPCA48E) nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	Integral membrane protein.	"Neuronal acetylcholine receptor protein, alpha-3 chain precursor."
L32591	3180	P48317	3181	M60974	3182	P24522	3183	95	gadd45	L32591mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).	

Table 2.

L32591	3184	P48317	3185	M60974	3186	P24522	3187	95	gadd45	L32591mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L32591	3188	P48317	3189	M60974	3190	P24522	3191	95	gadd45	L32591mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L32591	3192	P48317	3193	M60974	3194	P24522	3195	95	gadd45	L32591mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L33869	3196	P13635	3197	M113699	3198	P00450	3199	86.44	Ceruloplasmin	L33869 Rat norvegicus ceruloplasmin mRNA, complete cds /cds=(15,3194)/gb=L33869 /gi=499668 /ug=Rn 8598 /len=3700	Ceruloplasmin precursor (EC 1.16.3.1) (Ferroxidase).
L34262	3200	P45479	3201	XM_02984	3202	XP_029	3203	81	palmitoyl-protein thioesterase	L34262 Rattus norvegicus palmitoyl-protein thioesterase mRNA, complete cds /cds=(0,920) /gb=L34262 /gi=535741 /ug=Rn.1574 /len=2248	Palmitoyl-protein thioesterase 1 precursor (EC 3.1.2.22) (Palmitoyl-protein hydrolase 1).

Table 2.

L34821	3204	P51650	3205	L34820	3206	P51649	3207	84.34	Succinic semialdehyde dehydrogenase	L34821 Rat succinate-semialdehyde dehydrogenase (SSADH) mRNA, 3' end /cds=(0..1466) /gb=L34821 /gi=556394 /ug=Rn.10070 /len=1731	Succinate semialdehyde dehydrogenase (EC 1.2.1.24) (NAD(+)-dependentsuccinic semialdehyde dehydrogenase)
L35271	3208	Q63046	3209	D43968	3210	O60472	3211	96.4	AML1	L35271 Rattus norvegicus AML1 mRNA, complete cds /cds=(400..1752) /gb=L35271 /gi=529577 /ug=Rn.11201 /len=2006	"Runt-related transcription factor 1 (Core-binding factor, alpha 2 subunit) (CBF-alpha 2) (Acute myeloid leukemia 1 protein) (Oncogene AML-1) (Polyomavirus enhancer binding protein 2 alpha B subunit)(PEB"
L35571	3212	P50480	3213	A1972048	3214	XP_047951	3215	93.26	Rattus norvegicus (clone 1.6kB) islet-2 mRNA	L35571 Rattus norvegicus (clone 1.6kB) islet-2 mRNA, complete cds /cds=(76..1158) /gb=L35571 /gi=531217 /ug=Rn.10026 /len=1298	Insulin gene enhancer protein ISL-2 (Islet-2).
L35571	3216	P50480	3217	A1972048	3218	138522	3219	93.26	Insulin related protein 2	L35571 Rattus norvegicus (clone 1.6kB) islet-2 mRNA, complete cds /cds=(76..1158) /gb=L35571 /gi=531217 /ug=Rn.10026 /len=1298	Insulin gene enhancer protein ISL-2 (Islet-2).
L35921	3219	P43426	3220	NM_033258	3221	NP_150283	3222	89.05	GTP-binding protein gamma subunit	L35921 Rattus norvegicus GTP-binding protein gamma subunit (Ggamma8) mRNA, complete cds /cds=(220..432) /gb=L35921 /gi=625158 /ug=Rn.11233 /len=560	Guanine nucleotide-binding protein G(I)(G(S)/G(O) gamma-8 subunit(Gamma-9).

Table 2.

L36088	3223	AAC37	3224	L17075	3225	P37023	3226	86.75	Rattus norvegicus (clone RSTK-1) serine-threonine kinase receptor type I mRNA, complete cds /cds=(556..2070) /gb=L36088 /gi=609587 /ug=Rn.10631 /len=3917	
L36532	3227	AAA918	3228	L17418	3229	AAB606	3230	44	Rat complement regulatory protein (Cry) mRNA, complete cds /cds=(23..1702) /gb=L36532 /gi=550510 /ug=Rn.5825 /len=1811	
L38483	3231	Q63722	3232	NM_00222	3233	Q9Y219	3234	54	Jagged 1	
L38615	3235	P46413	3236	NM_00011	3237	P48637	3238	86	Glutathione synthetase gene	
L38615	3239	P46413	3240	NM_00011	3241	P48637	3242	86	Glutathione synthetase gene	
L38644	3243	P52296	3244	AA738059	3245	XP_017	163	96.52	karyopherin beta	
L39018	3246	AAC42	3247	AB027567	3248	XP_008	3249	90.97	Sodium channel protein 6	

Table 2.

L48209	3250	P80433	3251	No human homolog found.	No Human Protein Found.	Rattus norvegicus liver Cytochrome c oxidase subunit VIII (COX-VIII) mRNA, 3' end of cds	L48209 RATCOXVIII Rattus norvegicus liver cytochrome c oxidase subunit VIII (COX-VIII) mRNA, 3' end of cds	Cytochrome c oxidase polypeptide VIII-liver (EC 1.9.3.1).
M10094	3252	P15978	3253	I38874	3254	No Human Protein Found.	75 RT1 class Ib gene	M10094 Rat MHC class I truncated cell surface antigen mRNA /cds=(0,320)/gb=M10094 /gi=205412 /ug=Rn.3577 /len=628
M10094	3255	P15978	3256	I38874	3257	I38874	75 RT1 class Ib gene	M10094 Rat MHC class I truncated cell surface antigen mRNA /cds=(0,320)/gb=M10094 /gi=205412 /ug=Rn.3577 /len=628
M10934	3258	AAA42020	3259	NM_006744	3260	P02753	3261	M10934 RATTRBPA Rat retinol-binding protein (RBP) mRNA, partial cds
M11071	3262	P15978	3263	No human homolog found.	No Human Protein Found.	Rat MHC class I cell surface antigen	M11071 Rat MHC class I cell surface antigen mRNA /cds=(0,330)/gb=M11071 /gi=205414 /ug=Rn.11168 /len=824	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."
M11596	3264	P10093	3265	M64486	3266	P01258	3267	M11596 Rat beta-type calcitonin gene-related peptide mRNA, complete cds /cds=(5,409)/gb=M11596 /gi=203332 /ug=Rn.10741 /len=760
								Secreted Calcitonin gene-related peptide II precursor (CGRP-II) (Beta-typeCGRP).

Table 2.

M12156	3268	P04256	3269	AI339411	3270	XP_015 755	3271	95.4 helix-destabilizing protein							Heterogeneous nuclear ribonucleoprotein A1 (Helix-destabilizing protein) (Single-strand binding protein) (hnRNP core protein A1)(HDP).	NUCLEAR, SHUTTLES CONTINUOUSLY BETWEEN THE NUCLEUS AND THE CYTOPLASM ALONG WITH mRNA, COMPONENT OF RIBONUCLEOSOMES.	
M12492	3272	P12369	3273	M31158	3274	P31323	3275	88.65 type II cAMP-dependent protein kinase regulatory subunit							M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206670 /ug=Rn.4075 /len=3108	cAMP-dependent protein kinase type II-beta regulatory chain.	
M12492	3276	P12369	3277	M31158	3278	P31323	3279	88.65 type II cAMP-dependent protein kinase regulatory subunit							M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206670 /ug=Rn.4075 /len=3108	cAMP-dependent protein kinase type II-beta regulatory chain.	
M12492	3280	P12369	3281	M31158	3282	P31323	3283	88.65 type II cAMP-dependent protein kinase regulatory subunit							M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206670 /ug=Rn.4075 /len=3108	cAMP-dependent protein kinase type II-beta regulatory chain.	
M12492	3284	P12369	3285	M31158	3286	P31323	3287	88.65 type II cAMP-dependent protein kinase regulatory subunit							M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206670 /ug=Rn.4075 /len=3108	cAMP-dependent protein kinase type II-beta regulatory chain.	
M13100	3288	No human homolog found.													Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3	

Table 2.

M13100	3289	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3290	No human homolog found.	No Human Protein Found.	Long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3291	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3292	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3293	No human homolog found.	No Human Protein Found.	Long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3294	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#2 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3295	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#2 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)

Table 2.

M13100	3296	No human homolog found.	No Human Protein Found.		Long interspersed repetitive DNA sequence LINE3	M13100cds#2 RATLINE3A Rat long (L1Rn)
M13100	3297	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#3 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3298	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#3 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3299	No human homolog found.	No Human Protein Found.		Long interspersed repetitive DNA sequence LINE3	M13100cds#3 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3300	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#4 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3301	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#4 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3302	No human homolog found.	No Human Protein Found.		Long interspersed repetitive DNA sequence LINE3	M13100cds#4 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)

Table 2.

M113100	3303	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#5 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	
M113100	3304	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#5 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	
M113100	3305	No human homolog found.	No Human Protein Found.		Long interspersed repetitive DNA sequence LINE3	M13100cds#5 RATLINE3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	
M13962	3306	P06760	3307	BM01959	3308	P08236	3309
				7			88.96
							Glucuronidase , beta
M14053	3310	P06536	3311	AI472273	3312	NP_000167	3313
							91.43
							Glucocorticoid receptor
M14656	3314	P08721	3315	X13694	3316	P10451	3317
							89.51
							osteopontin
M15474	3318	AAA21801	3319	NM_000366	3320	P09493	3321
							81
							Alpha-tropomyosin gene
M15474	3322	AAA21801	3323	NM_000366	3324	P09493	3325
							81
							Alpha-tropomyosin gene

Table 2.

M15481	3326	P08024	3327	XM_05265 2	XP_052 652	92	Insulin-like growth factor I (IGF-I)		Secreted. Insulin-like growth factor IB precursor (IGF- IB) (Somatomedin).
M15523	3328	AAA418 77	3329	NM_0054 00	3330	Q02156	3331	83	Rat protein kinase C- family related mRNA, partial cds, clone RP16
M15562	3332	AAA416 09	3333	M60334	3334	P01903	3335	64	MHC class II alpha chain RT1.D alpha (u)
M15562	3336	CAA68 540	3337	NM_0191 11	3338	P01903	3339	70	Rat (diabetic BB) MHC class II alpha chain RT1.D alpha (u)
M15562	3340	AAA416 09	3341	M60334	3342	P01903	3343	64	MHC class II alpha chain RT1.D alpha (u)
M15562	3344	CAA68 540	3345	NM_0191 11	3346	P01903	3347	70	Rat (diabetic BB) MHC class II alpha chain RT1.D alpha (u)
M15768	3348	P05540	3349	NM_0006 16	3350	P01730	3351	52	CD4 antigen
M15882	3352	P08081	3353	M20471	3354	P09496	3355	91.57	clathrin light chain (LCA1),
									M15882 Rat clathrin light chain (LCA1) mRNA, complete cds /cds=(115..861) /gb=M15882 /gi=203273 /ug=Rn.3428 /len=1124
									CYTOSMIC FACE OF COATED PITS AND VESICLES. Clathrin light chain A (Lca).

Table 2.

M15882	3356	P08081	3357	M20471	3358	P09496	3359	91.57	clathrin light chain (LCA1)	CYTOPLASMIC FACE OF COATED PITS AND VESICLES.	Clathrin light chain A (Lca).
M15944	3360	P07861	3361	X07166	3362	P08473	3363	91.18	Membrane metallo-endopeptidase (neutral endopeptidase/enkephalinase e)	M15944 Rat enkephalinase (neutral endopeptidase) mRNA /cds=(78,2330)/gb=M15944 /gi=204031 /ug=Rn.1165 /len=3243	Type II membrane protein. Nephrilysin (EC 3.4.24.11) (Neutral endopeptidase) (NEP)(Enkephalinase).
M16112	3364	P08413	3365	AF081924	3366	Q9UNX7	3367	93.8	brain type II Ca2+/calmodulin-dependent protein kinase subunit mRNA, complete cds /cds=(62,1690) /gb=M16112 /gi=206170 /ug=Rn.9743 /len=1840	M16112 Rat brain type II Ca2+/calmodulin-dependent protein kinase subunit mRNA, complete cds /cds=(62,1690) /gb=M16112 /gi=206170 /ug=Rn.9743 /len=1840	Calcium/calmodulin-dependent protein kinase type II beta chain (EC2.7.1.123) (CaM-kinase II beta chain) (CaM kinase II beta subunit)(CaMK-II beta subunit).
M16112	3368	P08413	3369	AF081924	3370	Q9UNX7	3371	93.8	brain type II Ca2+/calmodulin-dependent protein kinase	M16112 Rat brain type II Ca2+/calmodulin-dependent protein kinase subunit mRNA, complete cds /cds=(62,1690) /gb=M16112 /gi=206170 /ug=Rn.9743 /len=1840	Calcium/calmodulin-dependent protein kinase type II beta chain (EC2.7.1.123) (CaM-kinase II beta chain) (CaM kinase II beta subunit)(CaMK-II beta subunit).
M17412	3372	AAA422	3373	NM_014367	3374	NP_055182	3375	87.72	Growth and transformation-dependent protein	M17412 Rat growth and transformation-dependent mRNA, 3' end /cds=(0,527) /gb=M17412 /gi=207249 /ug=Rn.3378 /len=587	

Table 2.

M17527	3376	P10824	3377	AF055013	3378	P04898	3379	88.01	Guanine nucleotide binding protein, alpha inhibiting 1	M17527 Rat GTP-binding protein (G-alpha-i) mRNA, complete cds /cds=(218,1282)/gb=M17527 /gi=203167 /ug=Rn:11391 /len=1945	"Guanine nucleotide-binding protein G(i), alpha-1 subunit (Adenylylcyse-inhibiting G alpha protein)."
M17527	3380	P10824	3381	AF055013	3382	P04898	3383	88.01	Guanine nucleotide binding protein, alpha inhibiting 1	M17527 Rat GTP-binding protein (G-alpha-i) mRNA, complete cds /cds=(218,1282)/gb=M17527 /gi=203167 /ug=Rn:11391 /len=1945	"Guanine nucleotide-binding protein G(i), alpha-1 subunit (Adenylylcyse-inhibiting G alpha protein)."
M18330	3384	AAA418	3385	XM_003106	XP_003106			87	Rat protein kinase C delta subspecies	M18330 RATPKCDA Rat protein kinase C delta subspecies	
M18330	3386	AAA418	3387	XM_003106	XP_003106			87	Rat protein kinase C delta subspecies	M18330 RATPKCDA Rat protein kinase C delta subspecies	
M18331	3388	AAA418	3389	NM_005400	3390	Q02156	3391	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18331	3392	AAA418	3393	NM_005400	3394	Q02156	3395	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18331	3396	AAA418	3397	NM_005400	3398	Q02156	3399	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18331	3400	AAA418	3401	NM_005400	3402	Q02156	3403	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18332	3404	AAA418	3405	Z15108	3406	Q05513	3407	97	Protein kinase C zeta subspecies	M18332 RATPKCZA Rat protein kinase C zeta subspecies	

Table 2.

M18529	3408	AAA414 05	3409	S65921	3410	AAB281 60	3411	82	immunglobuli n kappa-chain.	M18529cds RATIGKAH Rat (R.leucopus) Ig germline kappa-chain C-region gene, 3' end
M19359	3412	P10065	3413	M117315	3414	P11844	3415	83	Gamma-A- crystallin gene	M19359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2- 1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gi=203626 /ug=Rn.10805 /len=618
M19359	3416	AAA409 81	3417	XM_00245 8	XP_002 458		83	gamma-A- crystallin	X14115	M19359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2- 1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gi=203626 /ug=Rn.10805 /len=618
M20156	3418	P12001	3419	NM_0009 79	3420	Q07020	3421	96	ribosomal protein L18	M20156 Rat ribosomal protein L18 mRNA, complete cds /cds=(1,567) /gb=M20156 /gi=205723 /ug=Rn.484 /len=607
M22253	3422	P04774	3423	AY043484	3424	P35498	3425	90	Sodium channel, voltage-gated, type I, alpha	M22253 Rattus norvegicus sodium channel I mRNA, complete cds /cds=(251,6280) /gb=M22253 /gi=1041088 /ug=Rn.10135 /len=8399
M22357	3426	P07722	3427	NM_0806 00	3428	P20916	3429	88.91	Rat 1B236/myelin- associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9668 /len=2468
M22357	3430	P07722	3431	NM_0806 00	3432	P20916	3433	88.91	myelin- associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9668 /len=2468

Table 2.

M22357	3434	P07722	3435	NM_0806	3436	P20916	3437	88.91	Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9668 /len=2468	Type I membrane protein.
M22357	3438	P07722	3439	NM_0806	3440	P20916	3441	88.91	myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9668 /len=2468
M22400	3442	P13265	3443	L47125	3444	P51654	3445	89.19	developmentally regulated intestinal protein (Oci-5)	M22400 Rat developmentally regulated intestinal protein (Oci-5) mRNA, complete cds /cds=(114,1907) /gb=M22400 /gi=205799 /ug=Rn.9717 /len=2213
M23566	3446	A26122	3447	XM_04363	2	MAHU	3448	73	Alpha-2-macroglobulin	M23566 exon RATA2MAC2 Rattus norvegicus alpha-2-macroglobulin gene, 3 end
M23643	3449	RHRTT	3450	M63582	3451	P20396	3452	55	Thyrotropin releasing hormone	M23643 cds RATTRH02 Rattus norvegicus thyrotropin releasing hormone (TRH) gene, exon 2
M24104	3453	Q64357	3454	AF135372	3455	P19055	3456	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482
M24104	3457	Q64357	3458	AF135372	3459	P19055	3460	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482

Table 2.

M24104	3461	Q64357	3462	AF135372	3463	P19065	3464	98	Vesicle-associated membrane protein (synaptobrevin 2)
									M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482
M24104	3465	Q64357	3466	AF135372	3467	P19065	3468	98	Vesicle-associated membrane protein (synaptobrevin 2)
									M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482
M24104	3469	Q64357	3470	AF135372	3471	P19065	3472	98	Vesicle-associated membrane protein (synaptobrevin 2)
									M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482
M24104	3473	Q64357	3474	AF135372	3475	P19065	3476	98	Vesicle-associated membrane protein (synaptobrevin 2)
									M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482
M24542	3477	AAA420_51	3478	NM_0060_03	3479	NP_005994	3480	85	Rieske iron-sulfur protein
									M24542cds RATTRIP Rat Rieske iron-sulfur protein mRNA, complete cds
M24542	3481	AAA420_51	3482	NM_0060_03	3483	NP_005994	3484	85	Rieske iron-sulfur protein
									M24542cds RATTRIP Rat Rieske iron-sulfur protein mRNA, complete cds
M24542	3485	AAA420_51	3486	NM_0060_03	3487	NP_005994	3488	85	Rat Rieske iron-sulfur protein mRNA, complete cds
									M24542cds RATTRIP Rat Rieske iron-sulfur protein mRNA, complete cds
M24542	3489	AAA420_51	3490	NM_0060_03	3491	NP_005994	3492	85	Rieske iron-sulfur protein
									M24542cds RATTRIP Rat Rieske iron-sulfur protein mRNA, complete cds
M24542	3493	AAA420_51	3494	NM_0060_03	3495	NP_005994	3496	85	Rieske iron-sulfur protein
									M24542cds RATTRIP Rat Rieske iron-sulfur protein mRNA, complete cds

Table 2.

M24542	3497	AAA420 51	3498	NM_0060 03	3499	NP_005 994	3500	85	Rat Rieske iron-sulfur protein mRNA, complete cds	A103911	M24542cds RatriP Rat Rieske iron-sulfur protein mRNA, complete cds
M24604	3501	CAA68 261	3502	NM_0025 92	3503	P12004	3504	98	Cyclin (PCNA, proliferating cell nuclear antigen)	Y00047	M24604 Rat proliferating cell nuclear antigen (PCNA/cyclin) mRNA, complete cds /cds=(62,847) /gb=M24604 /gi=206047 /ug=Rn.223 /len=1160
M24604	3505	CAA68 261	3506	NM_0025 92	3507	P12004	3508	98	Cyclin (PCNA, proliferating cell nuclear antigen)	Y00047	M24604 Rat proliferating cell nuclear antigen (PCNA/cyclin) mRNA, complete cds /cds=(62,847) /gb=M24604 /gi=206047 /ug=Rn.223 /len=1160
M25584	3509	CAA24 559	3510	J00265	3511	AAA591 72	3512	95	Insulin 1 gene	V01242	M25584 Rat insulin 1 gene, exons 1 (partial) and 2 /cds=(114,446) /gb=M25584 /gi=204947 /ug=Rn.962 /len=542
M25638	3513	AAA416 94	3514	XM_00515 9	3515	XP_005 159	3516	88	Rat smallest neurofilament protein (NF-L) mRNA, partial cds	M25638 RATNFL Rat smallest neurofilament protein (NF-L) mRNA, partial cds	
M25646	3517	P01186	3518	XM_00958 0		XP_009 580		80	Vasopressin	M25646 Rat vasopressin mRNA, complete cds /cds=(32,526) /gb=M25646 /gi=207673 /ug=Rn.9976 /len=584	Vasopressin- neurophysin 2- copeptin precursor [Contains: Arg- vasopressin; Neurophysin 2 (Neurophysin-I); Copeptin].
M25804	3519	Q63503	3520	NM_0217 24						M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cds=(501,2027) /gb=M25804 /gi=514963 /ug=Rn.10105 /len=2297	Nuclear . Orphan nuclear receptor NR1D1 (V-erbA related protein EAR-1) (Rev-erbA- alpha).

Table 2.

M25804	3523	Q63503	3524	NM_0217	3525	P20393	3526	88	Rev-erbA-alpha protein	M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cds=(501,2027) /gb=M25804 /gi=514963 /ug=Rn.10105 /len=2297	Nuclear .	Orphan nuclear receptor NR1D1 (V-erbA related protein EAR-1) (Rev-erbA-alpha).
M25890	3527	P01167	3528	NM_001048	3529	RIHUS1	3530	90.31	Somatostatin	M25890 Rat somatostatin mRNA, complete cds /cds=(60,410) /gb=M25890 /gi=207030 /ug=Rn.540 /len=564	Secreted.	Somatostatin precursor [Contains: Antrin; Somatostatin-28; Somatostatin-14].
M26125	3531	P07687	3532	AI636871	3533	XP_001799		88.14	epoxide hydrolase	M26125 Rat epoxide hydrolase mRNA, complete cds /cds=(148,1515) /gb=M26125 /gi=207688 /ug=Rn.3603 /len=1733	MEMBRANE BOUND ON MICROSON ES.	Epoxide hydrolase 1 (EC 3.3.2.3) (Microsomal epoxide hydrolase)(Epoxide hydrolase).
M26161	3534	P10499	3535	L02750	3536	Q09470	3537	92.82	Rattus norvegicus potassium channel protein mRNA, complete cds	M26161 Rattus norvegicus potassium channel protein mRNA, complete cds /cds=(34,1521) /gb=M26161 /gi=206490 /ug=Rn.9769 /len=1729	Integral membrane protein.	Voltage-gated potassium channel protein Kv.1.1 (IA) (RBK1) (RCK1).
M26161	3538	P10499	3539	L02750	3540	Q09470	3541	92.82	Rattus norvegicus potassium channel protein mRNA, complete cds	M26161 Rattus norvegicus potassium channel protein mRNA, complete cds /cds=(34,1521) /gb=M26161 /gi=206490 /ug=Rn.9769 /len=1729	Integral membrane protein.	Voltage-gated potassium channel protein Kv.1.1 (IA) (RBK1) (RCK1).
M26247	3542	AAA41162	3543	NM_000133	3544	P00740	3545	78	Rat factor IX mRNA, partial cds	M26247 RATFIXA Rat factor IX mRNA, partial cds		
M26594	3546	AAA41563	3547	L34035	3548	P48163	3549	88	malic enzyme (MAL)	A1171506 M26594 Rat malic enzyme gene /cds=(0,1760) /gb=M26594 /gi=205293 /ug=Rn.22280 /len=1761		

Table 2.

M26594	3550	AAA415 63	3551	L34035	3552	P48163	3553	88	malic enzyme	A171506	M26594 Rat malic enzyme gene /cds=(0,1760) /gb=M26594 /gi=205293 /ug=Rn.22280 /len=1761	Cytoplasmic.
M26686	3554	P22062	3555	AF219140	3556	P22061	3557	98.7	Protein-L- isoaspartate (D-aspartate) O- methyltransfer- ase	M26686 Rattus norvegicus carboxyl methyltransferase mRNA, complete cds /cds=(60,743) /gb=M26686 /gi=603466 /ug=Rn.7136 /len=1658	Protein-L- isoaspartate(D- aspartate) O- methyltransf- erase (EC 2.1.1.77)(Protei n-beta-aspartate methyltransf- erase) (PMT) (Protein L- isoaspartyl methyltransf- erase) (L- isoaspartyl proteincarbox	
M26686	3558	P22062	3559	AF219140	3560	P22061	3561	98.7	Protein-L- isoaspartate (D-aspartate) O- methyltransfer- ase	M26686 Rattus norvegicus carboxyl methyltransferase mRNA, complete cds /cds=(60,743) /gb=M26686 /gi=603466 /ug=Rn.7136 /len=1658	Protein-L- isoaspartate(D- aspartate) O- methyltransf- erase (EC 2.1.1.77)(Protei n-beta-aspartate methyltransf- erase) (PMT) (Protein L- isoaspartyl methyltransf- erase) (L- isoaspartyl proteincarbox	
M27467	3562	P11951	3563	BG952851	3564	P09669	3565	83.54	Heart cytochrome oxidase subunit V _c (COX-V _c)	M27467 RATCOXHRT Rattus norvegicus heart cytochrome oxidase subunit V _c (COX- V _c) mRNA, complete cds	Mitochondrial inner membrane.	
M27726	3566	AAA408 15	3567	J03544	3568	P11216	3569	92	Phosphorylas- e (B-GP ₁)	M27726 RATBGP1P Rat phosphorylase (B- GP ₁) mRNA, partial cds	Cytochrome c oxidase polypeptide VIc- 2 (EC 1.9.3.1).	

Table 2.

M27726	3570	AAA40815	3571	J03544	3572	P11216	3573	92	Phosphorylase (B-GP1)	M27726 RATBGP1P Rat phosphorylase (B-GP1) mRNA, partial cds		
M27812	3574	P099510	3575	XM_013120	XP_013120			64	Synapsin Ia mRNA	M27812 Rat synapsin Ia mRNA, complete cds /cds=(80,2194) /gb=M27812 /gi=206920 /ug=Rn.9923 /len=2400	SYNAPSE.	Synapsin I.
M27925	3576	Q63537	3577	U40215	3578	Q92777	3579	92.66	synapsin 2a	M27925 Rat synapsin 2a mRNA, complete cds /cds=(130,1890) /gb=M27925 /gi=206833 /ug=Rn.506 /len=2648	SYNAPSE.	Synapsin II.
M28255	3580	P80433	3581	No human homolog found.	No Human Protein Found.				Cytochrome c oxidase subunit VII mRNA, 3' end	M28255 RATCYO8A Rat cytochrome c oxidase subunit VIII mRNA, 3' end		Cytochrome c oxidase polypeptide VII-liver (EC 1.9.3.1).
M28648	3582	AAA41672	3583	M37457	3584	P13637	3585	95	Na,K-ATPase alpha-2 subunit mRNA, 5' end	M28648 RATNALPH2 Rattus norvegicus Na,K-ATPase alpha-2 subunit mRNA, 5' end		
M28648	3586	AAA41672	3587	XM_009351	XP_009351			63	Na,K-ATPase alpha-2 subunit mRNA, 5' end	M28648 RATNALPH2 Rattus norvegicus Na,K-ATPase alpha-2 subunit mRNA, 5' end		
M29249	3588	P51639	3589	M11058	3590	P04035	3591	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	M29249cds RAT3H3M Rat 3-hydroxy-3-methylglutaryl coenzyme A reductase gene, partial cds		
M29249	3592	P51639	3593	M11058	3594	P04035	3595	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	M29249cds RAT3H3M Rat 3-hydroxy-3-methylglutaryl coenzyme A reductase gene, partial cds		
M29293	3596	P14648	3597	AF319523	3598	P14648	3599	92.02	Small nuclear ribonucleoparticle-associated protein (snRNP)	M29293 Rat small nuclear ribonucleoparticle-associated protein (snRNP) mRNA, complete cds, clone Sm51 /cds=(596,1318) /gb=M29293 /gi=207005 /ug=Rn.1169 /len=1428	Nuclear.	Small nuclear ribonucleoprotein associated protein N (snRNP-N) (Sm-N) (SmN) (Sm-D) (Tissue-specific splicing protein).

Table 2.

M31032	3600	AAA409 69	3601 44	NM_0072 44	3602 Q16378	3603	Rat contiguous repeat polypeptides (CRP) mRNA, complete cds		M31032mRNA#2 RATCRP01 Rat contiguous repeat polypeptides (CRP) mRNA, complete cds		
M31032	3604	AAA409 69	3605 44	NM_0072 44	3606 Q16378	3607	Rat contiguous repeat polypeptides (CRP) mRNA, complete cds		M31032mRNA#2 RATCRP01 Rat contiguous repeat polypeptides (CRP) mRNA, complete cds		
M31178	3608	P07171	3609	X06661	3610	P05937	3611	91.84 Cerebellar Ca- binding protein, spot 35 protein	M31178 Rat calbindin D28 mRNA, complete cds /cds=(285,1070)/gb=M31178 /gi=203234 /ug=Rn.3908 /len=2280	"Calbindin (Vitamin D- dependent calcium-binding protein, avian- type)(Calbindin D28) (D-28K) (Spot 35 protein)."	
M31178	3612	P07171	3613	X06661	3614	P05937	3615	91.84 Cerebellar Ca- binding protein, spot 35 protein	M31178 Rat calbindin D28 mRNA, complete cds /cds=(285,1070)/gb=M31178 /gi=203234 /ug=Rn.3908 /len=2280	"Calbindin (Vitamin D- dependent calcium-binding protein, avian- type)(Calbindin D28) (D-28K) (Spot 35 protein)."	
M31788	3616	P16617	3617	NM_0002 91	3618	P00558	3619	97 phosphoglycer ate kinase	AA892797 M31788 Rat X-chromosome linked phosphoglycerate kinase mRNA, complete cds /cds=(40,1293)/gb=M31788 /gi=206112 /ug=Rn.10989 /len=1675	"Phosphoglycer ate kinase, testis specific (EC 2.7.2.3)"	
M31788	3620	P16617	3621	NM_0002 91	3622	P00558	3623	97 phosphoglycer ate kinase	AA892797 M31788 Rat X-chromosome linked phosphoglycerate kinase mRNA, complete cds /cds=(40,1293)/gb=M31788 /gi=206112 /ug=Rn.10989 /len=1675	"Phosphoglycer ate kinase, testis specific (EC 2.7.2.3)"	

Table 2.

M32062	3624	P27645	3625	AV703731	3626	AAA358 27	3627	96.12	Fc-gamma receptor		M32062 Rat Fc-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Type I membrane protein .	Low affinity immunoglobulin gamma FC region receptor III precursor(I(GG FC receptor III) (FC-gamma RIII) (FCRIII).
M32062	3628	P27645	3629	AV703731	3630	AAA358 27	3631	96.12	Fc-gamma receptor		M32062 Rat Fc-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Type I membrane protein .	Low affinity immunoglobulin gamma FC region receptor III precursor(I(GG FC receptor III) (FC-gamma RIII) (FCRIII).
M32062	3632	P27645	3633	AV703731	3634	AAA358 27	3635	96.12	Fc-gamma receptor		M32062 Rat Fc-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Type I membrane protein .	Low affinity immunoglobulin gamma FC region receptor III precursor(I(GG FC receptor III) (FC-gamma RIII) (FCRIII).
M32062	3636	P27645	3637	AV703731	3638	AAA358 27	3639	96.12	Fc-gamma receptor		M32062 Rat Fc-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Type I membrane protein .	Low affinity immunoglobulin gamma FC region receptor III precursor(I(GG FC receptor III) (FC-gamma RIII) (FCRIII).
M32397	3640	P20646	3641	M34840	3642	P15309	3643	84.94	Rat prostatic acid phosphatase (rPAP)		M32397 Rat prostatic acid phosphatase (rPAP) mRNA, complete cds /cds=(40,1185) /gb=M32397 /gi=206028 /ug=Rn.9728 /len=1603	Prostatic acid phosphatase precursor (EC 3.1.3.2).	
M32397	3644	P20646	3645	M34840	3646	P15309	3647	84.94	Rat prostatic acid phosphatase (rPAP)		M32397 Rat prostatic acid phosphatase (rPAP) mRNA, complete cds /cds=(40,1185) /gb=M32397 /gi=206028 /ug=Rn.9728 /len=1603	Prostatic acid phosphatase precursor (EC 3.1.3.2).	

Table 2.

M32867	3648	P15385	3649	L02751	3650	P22459	3651	90.52	Potassium channel protein (RHK1)	M32867 Rat potassium channel protein (RHK1) mRNA, complete cds /cds=(80,2044) /gb=M32867 /gi=205042 /ug=Rn.9884 /len=3201	Integral membrane protein.	Voltage-gated potassium channel protein Kv1.4 (RCK4) (RHK1) (RK4).
M33648	3652	P22791	3653	X83618	3654	P54868	3655	86.03	3-hydroxy-3-methylglutaryl-CoA synthase	M33648 Rat mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase mRNA, complete cds /cds=(49,1575) /gb=M33648 /gi=204618 /ug=Rn.6592 /len=1994	Mitochondrial "Hydroxymethyl glutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."	Mitochondrial "Hydroxymethyl glutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."
M33648	3656	P22791	3657	X83618	3658	P54868	3659	86.03	3-hydroxy-3-methylglutaryl-CoA synthase	M33648 Rat mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase mRNA, complete cds /cds=(49,1575) /gb=M33648 /gi=204618 /ug=Rn.6592 /len=1994	Mitochondrial "Hydroxymethyl glutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."	Mitochondrial "Hydroxymethyl glutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."
M33648	3656	P22791	3657	X83618	3658	P54868	3659	86.03	3-hydroxy-3-methylglutaryl-CoA synthase	M33648 Rat mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase mRNA, complete cds /cds=(49,1575) /gb=M33648 /gi=204618 /ug=Rn.6592 /len=1994	Mitochondrial "Hydroxymethyl glutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."	Mitochondrial "Hydroxymethyl glutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."

Table 2.

M34176	3660	P21851	3661	M34175	3662	P21851	3663	100	R.norvegicus beta-chain clathrin associated protein complex AP-2 mRNA, complete cds	M34176 Rat beta adaptin mRNA, complete cds /cds=(71.2884 /gb=M34176 /gi=203096 /ug=Rn.1050 /len=3477	COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC FACE OF COATED VESICLES IN THE PLASMA MEMBRANE. (Clathrinasembly protein complex 2 beta large chain) (AP105B).	Adapter-related protein complex 2 beta 1 subunit (Beta-adaptin)(Plasma membrane adaptor HA2/AF2 adaptin beta subunit)
M34253	3664	P23570	3665	X14454	3666	P10914	3667	86.81	interferon regulatory factor 1 (IRF-1)	M34253 Rat interferon regulatory factor 1 (IRF-1) mRNA, complete cds /cds=(197.1183) /gb=M34253 /gi=204970 /ug=Rn.6396 /len=2048	Nuclear.	Interferon regulatory factor 1 (IRF-1).
M34253	3668	P23570	3669	X14454	3670	P10914	3671	86.81	interferon regulatory factor 1 (IRF-1)	M34253 Rat interferon regulatory factor 1 (IRF-1) mRNA, complete cds /cds=(197.1183) /gb=M34253 /gi=204970 /ug=Rn.6396 /len=2048	Nuclear.	Interferon regulatory factor 1 (IRF-1).
M35270	3672	P09139	3673	NM_000030	3674	P21549	3675	76	Alanine-glyoxylate aminotransferase (Serine- pyruvate aminotransferase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds	MITOCHON DRIAL MATRIX (INDUCED ON GLUCAGON ADMINISTR ATION) AND PEROXISOM ES (NOT EFFECTED BY GLUCAGON)	"Serine-- pyruvate aminotransfers e, mitochondrial precursor(EC 2.6.1.51) (SPT) (Alanine- glyoxylate aminotransfers e)(EC 2.6.1.44) (AGT)."

Table 2.

M35270	3676	P09139	3677	NM_000030	3678	P21549	3679	76	Alanine-glyoxylate aminotransferase (Serine-Pyruvate aminotransferase)	M35270completeSeq RATSPA Rat serine-pyruvate aminotransferase mRNA, complete cds	MITOCHONDRIAL MATRIX (INDUCED ON GLUCAGON ADMINISTRATION) AND PEROXISOMAL aminotransferases (NOT EFFECTED BY GLUCAGON)	"Serine-Pyruvate aminotransferase, mitochondrial precursor(EC 2.6.1.51) (SPT) (Alanine-glyoxylate aminotransferase)(EC 2.6.1.44) (AGT)."
M36151	3680	AAA41612	3681	M81141	3682	P01919	3683	77	MHC class II A-beta RT1.B-beta gene	M36151cds RATMHRT1B Rat MHC class II A-beta RT1.B-b-beta gene, partial cds		
M36410	3684	P18297	3685	M76231	3686	P35270	3687	74	Sepiapterin reductase	M36410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M36410 /gi=206895 /ug=Rn.6658 /len=1157	Cytoplasmic.	Sepiapterin reductase (EC 1.1.1.153) (SPR).
M36410	3688	P18297	3689	M76231	3690	P35270	3691	74	Sepiapterin reductase	M36410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M36410 /gi=206895 /ug=Rn.6658 /len=1157	Cytoplasmic.	Sepiapterin reductase (EC 1.1.1.153) (SPR).
M55015	3692	AAA41732	3693	XN_048741		XP_048741		73	nucleolin	M55015cds RATNUC1A1 Rat nucleolin gene		
M55017	3694	AAA41732	3695	XN_048741		XP_048741		73	Rat nucleolin gene	M55017exon RATNUC1A2 Rat nucleolin gene		
M55417	3696	NP_036760	3697	NM_0022739	3698	P05129	3699	93	Protein kinase C-gamma (PRKC-gamma) gene	M55417exon RATPKCGA Rat protein kinase C-gamma (PRKC-gamma) gene, exon 1		
M57276	3700	P24485	3701	M37033	3702	P19397	3703	83.56	leukocyte antigen MRC-OX44	M57276 Rat leukocyte antigen MRC-OX44 mRNA, complete cds /cds=(161,820) /gb=M57276 /gi=205897 /ug=Rn.2133 /len=1699	Integral membrane protein.	Leukocyte surface antigen CD53 (Cell surface glycoprotein CD53)(Leukocyte antigen MRC OX-44).

Table 2.

M57428	3704	P21425	3705	M60724	3706	P23443	3707	96.36	S6 kinase		M57428 RAT S6KIN3 Rat S6 kinase mRNA, complete cds	CYTOPLAS MIC ALSO FOUND IN THE SOLUBLE SYNAPTOS OMAL FRACTIONS.	Ribosomal protein S6 kinase I (EC 2.7.1.-) (S6K) (P70-S6K).
M57728	3708	P20069	3709	D21064	3710	Q10713	3711	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)."	
M57728	3712	P20069	3713	D21064	3714	Q10713	3715	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)."	
M57728	3716	P20069	3717	D21064	3718	Q10713	3719	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)."	
M57728	3720	P20069	3721	D21064	3722	Q10713	3723	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)."	

Table 2.

M58364	3724	P22288	3725	U62810	3726	O76071	3727	92.83	GTP cyclohydrolase 1	M58364 Rat GTP cyclohydrolase I mRNA, complete cds /cds=(127,852) /gb=M58364 /gi=204536 /ug=Rn.5933 /len=1016	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP-CH-I).
M58370	3728	P17084	3729	BGG311131	3730	NP_001823	3731	93.26	Colipase	M58370 Rat colipase mRNA, complete cds /cds=(58,396) /gb=M58370 /gi=203504 /ug=Rn.6714 /len=492	Colipase precursor.
M60322	3732	AAA40721	3733	NM_001628	3734	P15121	3735	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339	
M60322	3736	AAA40721	3737	NM_001628	3738	P15121	3739	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339	
M60322	3740	AAA40721	3741	NM_001628	3742	P15121	3743	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339	

Table 2.

M60322	3744	AAA407	3745	NM_0016 28	3746	P15121	3747	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60322	3748	AAA407	3749	NM_0016 28	3750	P15121	3751	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60322	3752	AAA407	3753	NM_0016 28	3754	P15121	3755	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60921	3756	P27049	3757	U72649	3758	P78543	3759	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519
M60921	3760	P27049	3761	U72649	3762	P78543	3763	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519
M60921	3764	P27049	3765	U72649	3766	P78543	3767	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519

Table 2.

M60921	3768	P27049	3769	U72649	3770	P78543	3771	88.24	B-cell translocation gene 2, anti-proliferative	M60921 Rat PC3 NGF-inducible anti-proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519	Cytoplasmic. Prohibitin (B-cell receptor associated protein 32) (BAP 32).
M61219	3772	P24142	3773	NM_002634	3774	P35232	3775	93	prohibitin	M61219 Rat prohibitin (phb) mRNA, complete cds /cds=(11,829) /gb=M61219 /gi=206383 /ug=Rn.719 /len=1668	
M61875	3776	P26051	3777	BF748398	3778	P04920	3779	91.33	glycoprotein CD44	M61875 Rattus norvegicus glycoprotein CD44 (CD44) mRNA, complete cds /cds=(112,1206) /gb=M61875 /gi=576532 /ug=Rn.1120 /len=2747	Type I membrane protein.
M62388	3780	P23567	3781	BC005979	3782	P23567	3783	94.38	Ubiquitin conjugating enzyme	M62388 RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds	Ubiquitin-conjugating enzyme E2 B (EC 6.3.2.19) (Ubiquitin-protein ligase B) (Ubiquitin carrier protein B) (HR6B) (HHR6B) (E2-17 kDa).

Table 2.

M62388	3784	P23567	3785	BC005979	3786	P23567	3787	94.38	Ubiquitin conjugating enzyme	M62388 Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds	Ubiquitin-conjugating enzyme E2B (EC 6.3.2.19) (Ubiquitin-protein ligase B) (Ubiquitin carrier protein B) (HR6B) (HHR6B) (E2-17 kDa).
M62992	3788	AAA417 89	3789	XM_00898 6		XP_008 986		57	glycoprotein p62	M62992 R.rattus glycoprotein p62 gene, complete cds /cds=(716,2293) /gb=M62992 /gi=205953 /ug=Rn.354 /len=2918	
M62992	3790	AAA417 89	3791	XM_00898 6		XP_008 986		57	glycoprotein p62	M62992 R.rattus glycoprotein p62 gene, complete cds /cds=(716,2293) /gb=M62992 /gi=205953 /ug=Rn.354 /len=2918	
M63122	3792	P22934	3793	M33294	3794	P19438	3795	84.09	Tumor necrosis factor receptor	M63122 Rat tumor necrosis factor receptor (TNF receptor) mRNA, complete cds /cds=(237,1622) /gb=M63122 /gi=207361 /ug=Rn.11119 /len=2130	Type I membrane protein.
M63485	3796	P43244	3797	BC015031	3798	P43243	3799	92.81	matrin 3	M63485 Rattus norvegicus matrin 3 mRNA, complete cds /cds=(225,2762) /gb=M63485 /gi=2278401 /ug=Rn.38064 /len=3744	NUCLEAR MATRIX.
M63901	3800	P27682	3801	BC005349	3802	P05408	3803	88.1	neuroendocrine protein 7B2	M63901 Rat neuroendocrine protein 7B2 mRNA, complete cds /cds=(36,688) /gb=M63901 /gi=202562 /ug=Rn.6173 /len=1107	Neuroendocrine and endocrine secretory granules.
M63901	3804	P27682	3805	BC005349	3806	P05408	3807	88.1	neuroendocrine protein 7B2	M63901 Rat neuroendocrine protein 7B2 mRNA, complete cds /cds=(36,688) /gb=M63901 /gi=202562 /ug=Rn.6173 /len=1107	Neuroendocrine protein 7B2 precursor (Secretogranin V).

Table 2.

M63983	3808	P27605	3809	L29382	3810	AAB593	3811	94	Rat hypoxanthine phosphoribosyltransferase	AA799402	M63983 RATHPRT Rat hypoxanthine phosphoribosyltransferase mRNA, complete cds	Cytoplasmic.
M63983	3812	P27605	3813	NM_00001	3814	P00492	3815	95	hypoxanthine phosphoribosyltransferase	M63983 RATHPRT Rat hypoxanthine phosphoribosyltransferase mRNA, complete cds	Cytoplasmic.	Hypoxanthine-guanine phosphoribosyltransferase (EC 2.4.2.8) (HGprt)(HGP RTase).
M64092	3816	P27775	3817	AF225513	3818	Q9C010	3819	84.4	cAMP-dependent protein kinase (catalytic subunit binding) inhibitor 2	NM_01262	M64092 Rat testis cAMP-dependent protein kinase inhibitor protein mRNA, complete cds /cds=(255;470) /gb=M64092 /gi=206196 /ug=Rn.9748 /len=1350	"cAMP-dependent protein kinase inhibitor, beta form (PKI-beta) (cAMP-dependent protein kinase inhibitor, testis isoform)."
M64301	3820	P27704	3821	NM_0027	3822	Q16659	3823	91.51	extracellular signal-related kinase 3.	M64301 RATERK3 Rat extracellular signal-related kinase (ERK3) mRNA, complete cds	Mitogen-activated protein kinase 6 (EC 2.7.1.-) (Extracellular signal-regulated kinase 3) (ERK-3) (p55-MAPK).	
M64301	3824	P27704	3825	NM_0027	3826	Q16659	3827	91.51	extracellular signal-related kinase 3.	M64301 RATERK3 Rat extracellular signal-related kinase (ERK3) mRNA, complete cds	Mitogen-activated protein kinase 6 (EC 2.7.1.-) (Extracellular signal-regulated kinase 3) (ERK-3) (p55-MAPK).	

Table 2.

M64376	3828	P23265	3829	NM_0123 77	3830	9329000 1	80.65	Rat olfactory protein mRNA, complete cds	M64376 RATOLFFPROB Rat olfactory protein mRNA, complete cds	Integral membrane protein.	Olfactory receptor-like protein F3.
M64488	3831	P29101	3832	XM_01284 0	3833	XP_012 840	56	synaptotagmin II	M64488 Rat synaptotagmin II mRNA, complete cds /cds=(114,1382) /gb=M64488 /gi=207144 /ug=Rn.10042 /len=2681	SYNAPTIC VESICLES AND CHROMAFFI N GRANULES.	Synaptotagmin II (SytII).
M64733	3835	AAA422 99	3836	XM_02744 7	XP_027 447	75	75	Rat TRPM-2 gene	M64733mRNA RATTRPM2B Rat TRPM-2 gene, complete cds		
M64755	3837	Q64611	3838	AF116545	3839	Q9Y600	89.68	cysteine sulfinate acid decarboxylase	M64755 Rattus norvegicus cysteine sulfinate acid decarboxylase mRNA, complete cds /cds=(67,1503) /gb=M64755 /gi=847652 /ug=Rn.11321 /len=2060	Cysteine sulfinate acid decarboxylase (EC 4.1.1.29) (Sulfinoalanined ecarboxylase) (Cysteine- sulfinate decarboxylase).	
M64797	3841	P25114	3842	AF108765	3843	Q16877	89.15	6- phosphofructo- 2- kinase/fructos- e-2,6- biphosphatase 4	M64797 Rat testis fructose-6-phosphate, 2- kinase-fructose-2, 6-biphosphatase mRNA, complete cds /cds=(34,1443) /gb=M64797 /gi=204147 /ug=Rn.10925 /len=1739	"6- phosphofructo-2- kinase/fructose- 2,6- biphosphatase 4 (6PF-2-K/Fru- 2,6-P2ASE testis-type isozyme) (Includes: 6- phosphofructo-2- kinase(EC 2.7.1.109); Fructose-2,6- biphosphatase (EC 3.1.3.46)."}	

Table 2.

M64986	3845	P07155	3846	AV701053	3847	P09429	3848	100	amphoterin	"NUCLEAR AND ALSO CYTOPLAS- MIC, ASSOCIA- TE D WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS- GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphoterin) (Heparin- bindingprotein p30).
M64986	3849	P07155	3850	AV701053	3851	P09429	3852	100	amphoterin	"NUCLEAR AND ALSO CYTOPLAS- MIC, ASSOCIA- TE D WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS- GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphoterin) (Heparin- bindingprotein p30).

Table 2.

M65251	3853	Q00900	3854	X65644	3855	P31629	3856	92.8	Human immunodeficiency virus type I enhancer-binding protein 2	M65251 Rat angiotensinogen gene-inducible enhancer-binding protein 1 mRNA, 3' end /cds=(0,2752) /gb=M65251 /gi=202790 /ug=Rn.9802 /len=3774	Nuclear.	DNA-binding protein AGIE-BP1 (Angiotensinogen gene-inducible enhancer-binding protein 1) (Fragment).
M65251	3857	Q00900	3858	X65644	3859	P31629	3860	92.8	Human immunodeficiency virus type I enhancer-binding protein 2	M65251 Rat angiotensinogen gene-inducible enhancer-binding protein 1 mRNA, 3' end /cds=(0,2752) /gb=M65251 /gi=202790 /ug=Rn.9802 /len=3774	Nuclear.	DNA-binding protein AGIE-BP1 (Angiotensinogen gene-inducible enhancer-binding protein 1) (Fragment).
M68971	3861	P27881	3862	AF148513	3863	P52789	3864	94	Hexokinase 2	M68971 Rat hexokinase type II (HKII) mRNA, complete cds /cds=(197,2950) /gb=M68971 /gi=204612 /ug=Rn.22613 /len=3635	Hexokinase type II (EC 2.7.1.1) (HK II).	
M73714	3865	P30839	3866	XM_045058	XP_045058		84	aldehyde dehydrogenase	M73714 Rat microsomal aldehyde dehydrogenase mRNA, complete cds /cds=(123,1577) /gb=M73714 /gi=205265 /ug=Rn.9113 /len=2977	CYTOPLASMIC SURFACE OF THE ENDOPLASMIC RETICULUM (MIC)	"Fatty aldehyde dehydrogenase (EC 1.2.1.3) (Aldehyde dehydrogenase, microsomal) (ALDH class 3)."	
M73808	3867	P31325	3868	NM_006213	3869	Q16816	3870	60	phosphorylase kinase catalytic subunit	M73808mRNA Rat phosphorylase kinase catalytic subunit mRNA, complete CDS /cds=UNKNOWN /gb=M73808 /gi=206163 /ug=Rn.11153 /len=1836	"Phosphorylase B kinase gamma catalytic chain, testis/liver isoform(EC 2.7.1.38) (PHK-gamma-T) (Phosphorylase kinase gamma subunit 2)."	

Table 2.

M74223	3871	P20156	3872	BF223121	3873	g5630085	94.34	VGF nerve growth factor inducible		M74223 Rat VGF mRNA, complete cds /cds=(183,2036) /gb=M74223 /gi=207650 /ug=Rn.9704 /len=2507	Stored in secretory vesicles and then secreted.	Neurosecretory protein VGF precursor (VGF8a protein).
M74439	3874	AAA423	3875	NM_001077	3876	O75795	3877	66	UDP glucuronosyltransferase gene, complete cds	M74439mRNA RATUDPGV Rattus rattus UDP glucuronosyltransferase gene, complete cds		
M74494	3878	P06685	3879	D00099	3880	P05023	3881	96	ATPase, Na+K+ transporting, alpha 1 polypeptide	M74494 Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3 end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2992 /len=936	Integral membrane protein.	Sodium/potassium transporting ATPase alpha-1 chain precursor(EC 3.6.3.9) (Sodium pump 1) (Na+/K+ ATPase 1).
M74494	3882	P06685	3883	D00099	3884	P05023	3885	96	ATPase, Na+K+ transporting, alpha 1 polypeptide	M74494 Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3 end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2992 /len=936	Integral membrane protein.	Sodium/potassium transporting ATPase alpha-1 chain precursor(EC 3.6.3.9) (Sodium pump 1) (Na+/K+ ATPase 1).
M75153	3886	P24410	3887	X53143	3888	P24410	3889	94.94	RAB11a, member RAS oncogene family	M75153 R.norvegicus ras p21-like small GTP binding protein (24KG) mRNA, complete cds /cds=(0,650) /gb=M75153 /gi=205566 /ug=Rn.1016 /len=895		Ras-related protein Rab-11A (RAB-11) (24KG) (YL8).
M75153	3890	P24410	3891	X53143	3892	P24410	3893	94.94	RAB11a, member RAS oncogene family	M75153 R.norvegicus ras p21-like small GTP binding protein (24KG) mRNA, complete cds /cds=(0,650) /gb=M75153 /gi=205566 /ug=Rn.1016 /len=895		Ras-related protein Rab-11A (RAB-11) (24KG) (YL8).
M75168	3894	Q63413	3895	AK026762	3896	NP_004631	3897	93.68	Rattus norvegicus liver nuclear protein p47	M75168 Rattus norvegicus liver nuclear protein p7 mRNA /cds=(99,1298) /gb=M75168 /gi=205941 /ug=Rn.3516 /len=1643	Nuclear.	Probable ATP-dependent RNA helicase p47.

Table 2.

M75168	3898	Q63413	3899	AK026762	3900	NP_004 631	3901	93.68	liver nuclear protein p47	M75168 Rattus norvegicus liver nuclear protein p47 mRNA /cds=(99/1298) /gb=M75168 /gi=205941 /ug=Rn.3516 /len=1643	Nuclear.
M76426	3902	P46101	3903	M96860	3904	P42658	3905	93	Dipeptidylpepti dase 6	M76426 Rattus norvegicus dipeptidyl aminopeptidase-related protein (dpp6) mRNA, complete cds /cds=(197/2776) /gb=M76426 /gi=408713 /ug=Rn.10076 /len=2819	Type II membrane protein .
M76426	3906	P46101	3907	M96860	3908	P42658	3909	93	Dipeptidylpepti dase 6	M76426 Rattus norvegicus dipeptidyl aminopeptidase-related protein (dpp6) mRNA, complete cds /cds=(197/2776) /gb=M76426 /gi=408713 /ug=Rn.10076 /len=2819	Type II membrane protein .
M76740	3910	AAA416 42	3911	AF007194	3912	AAC022 72	3913	55	Rat intestinal mucin mRNA	M76740 RATMUCIN Rat intestinal mucin mRNA, partial cds	
M76740	3914	AAA416 42	3915	AF007194	3916	AAC022 72	3917	55	Rat intestinal mucin mRNA, partial cds	M76740 RATMUCIN Rat intestinal mucin mRNA, partial cds	

Table 2.

M77245	3918	P52303	3919	L13939	3920	Q10567	3921	96	Adaptor protein complex AP-1 beta 1 subunit	M77245 R.norvegicus beta -chain clathrin associated protein complex AP-1 mRNA, complete cds /cds=(39,2888) /gb=M77245 /gi=203112 /ug=Rn.9466 /len=3663	Component of the coat surrounding the cytoplasmic face of coated vesicles located at the adaptor HA1/AP1 adaptin beta subunit (Clathrin assembly protein complex 1 betalarg
M77694	3922	P25093	3923	X51728	3924	P16930	3925	85.26	fumarylacetoacetate hydrolase (FAH)	M77694 R.norvegicus fumarylacetoacetate hydrolase (FAH) mRNA, complete cds /cds=(22,1281) /gb=M77694 /gi=204089 /ug=Rn.9195 /len=1373	Fumarylacetoacetate hydrolase (Beta-diketonease) (FAA).
M80367	3926	AAA199	3927	M55542	3928	P32455	3929	88.73	isoprenylated 67 kDa protein	M80367 Rat isoprenylated 67 kDa protein mRNA, complete cds /cds=(172,1947) /gb=M80367 /gi=207604 /ug=Rn.7932 /len=2396	
M80601	3930	P47816	3931	AK055180	3932	g379013	3	87.27	Programmed cell death 2	M80601 Rat zinc finger protein (RP8) mRNA, 3 end /cds=(0,863) /gb=M80601 /gi=206717 /ug=Rn.6959 /len=912	Nuclear . Programmed cell death protein 2 (Zinc finger protein RP-8) (Fragment).
M80804	3933	Q64319	3934	L11696	3935	Q07837	3936	82.89	Rattus norvegicus unknown mRNA	M80804 RATSTRAP Rat protein which stimulates transport of cystine and dibasic and neutral amino acids mRNA, complete cds	Type II membrane protein . "Neutral and basic amino acid transport protein rBAT (B(0,+)-type amino acid transport protein) (NAA-TR) (D2)."

Table 2.

M81642	3937	P26824	3938	M62424	3939	P25116	3940	77	Thrombin receptor		M81642 Rat G-protein coupled thrombin receptor mRNA, complete cds /cds=(73,1371) /gb=M81642 /gi=207465 /ug=Rn.2609 /len=3418	Integral membrane protein.	Proteinase activated receptor 1 precursor (PAR-1) (Thrombin receptor).
M81642	3941	P26824	3942	M62424	3943	P25116	3944	77	Thrombin receptor		M81642 Rat G-protein coupled thrombin receptor mRNA, complete cds /cds=(73,1371) /gb=M81642 /gi=207465 /ug=Rn.2609 /len=3418	Integral membrane protein.	Proteinase activated receptor 1 precursor (PAR-1) (Thrombin receptor).
M81687	3945	P34900	3946	AI373958	3947	P34741	3948	90_2	core protein (HSPG)		M81687 Rat core protein (HSPG) mRNA, complete cds /cds=(353,988) /gb=M81687 /gi=204688 /ug=Rn.11127 /len=2153	Type I membrane protein.	Syndecan-2 precursor (Fibroglycan) (Heparan sulfate proteoglycan coreprotein) (HSPG) (SYND2).
M82826	3949	AAA416	3950	XM_05012	1	XP_05012	121	99	Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3' end		M82826 RATTNF1ASAC Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3' end		
M82826	3951	AAA416	3952	XM_05012	1	XP_05012	121	99	Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3' end		M82826 RATTNF1ASAC Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3' end		

Table 2.

M83107	3953	P31232	3954	XM_006432	3955	XP_006432	3956	3956	97	SM22		Cytoplasmic	Transgelin (Smooth muscle protein 22- alpha) (SM22- alpha).
M83298	3957	P36876	3958	BM01489	3959	NP_002708	3960	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B-alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A,su"	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B-alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A,su"
M83298	3961	P36876	3962	BM01489	3963	NP_002708	3964	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B-alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A,su"	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B-alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A,su"

Table 2.

M83298	3965	P36876	3966	BM01489	3967	NP_002 708	3968	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55, alpha isoform) (PP2A, "su")
M83298	3969	P36876	3970	BM01489	3971	NP_002 3	3972	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55, alpha isoform) (PP2A, "su")

Table 2.

M83298	3973	P36876	3974	BMI01489	3975	NP_002 708	3976	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonine protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, su"	
M83298	3977	P36876	3978	BMI01489	3979	NP_002 3	3980	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonine protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, su"	
M83561	3981	P22756	3982	U16125	3983	P39086	3984	97	Glutamate receptor, ionotropic, kainate 1		M83561 Rattus norvegicus glutamate receptor subunit 5-2 (GluR5-2), kainate subtype mRNA, complete cds /cds=(187,2904) /gb=M83561 /gi=204389 /ug=Rn.10449 /len=3185	Integral membrane protein.	"Glutamate receptor, ionotropic kainate 1 precursor (Glutamate receptor5) (GLUR5) (GluR5)."

Table 2.

M83561	3985	P22756	3986	U16125	3987	P39086	3988	97	Glutamate receptor, ionotropic, kainate 1	M83561 Rattus norvegicus glutamate receptor subunit 5-2 (GluR5-2), kainate subtype mRNA, complete cds /cds=(187,2804) /gb=M83561 /gi=204389 /ug=Rn.10449 /len=3185	Integral membrane protein.	"Glutamate receptor, ionotropic kainate 1 precursor (Glutamate receptor5) (GLUR-5) (GluR5)."
M83675	3989	P35280	3990	X56741	3991	P24407	3992	89.8	RAB8	M83675 Sprague-Dawley (clone LRB11) RAB8 mRNA, complete cds /cds=(27,404) /gb=M83675 /gi=206540 /ug=Rn.9823 /len=840	Ras-related protein Rab-8 (Fragment).	
M83678	3993	P35286	3994	X75593	3995	P51153	3996	90	RAB13	M83678 Sprague-Dawley (clone LRB10) RAB13 mRNA, 3' end /cds=(0,494) /gb=M83678 /gi=206532 /ug=Rn.9819 /len=857	Ras-related protein Rab-13 (Fragment).	
M83679	3997	AAA419	3998	XM_05052	5	XP_050525	52	RAB15	M83679 Sprague-Dawley (clone LRB9) RAB15 mRNA, complete cds /cds=(2,19,857) /gb=M83679 /gi=206536 /ug=Rn.9821 /len=945			
M83681	3999	Q63942	4000	NM_0042	4001	O957716	4002	88	RAB16	M83681 Sprague-Dawley (clone LRB2) RAB16 mRNA, complete cds /cds=(0,596) /gb=M83681 /gi=206538 /ug=Rn.9822 /len=1889	GTP-binding protein Rab-3D.	
M83740	4003	CAA06	4004	NM_00002	4005	P80095	4006	100	Dimerization cofactor of HNF1; pterin-4a-carbinolamin dehydratase	AJ005542 M83740 RATHOME0A Rat cofactor mRNA sequence		
M83746	4007	P28841	4008	BC005815	4009	P16579	4010	90.1	Proprotein convertase subtilisin/kexin type 2	M83746 Rat homologue of Kex2 and furin proteins mRNA, complete cds /cds=(294,2210) /gb=M83746 /gi=205064 /ug=Rn.9889 /len=2428	LOCALIZED IN THE SECRETION GRANULES.	
										(PC2)(Prohormone convertase 2) (Proprotein convertase 2) (KEX2-likeendoprotease 2).		

Table 2.

M84719	4011	P36365	4012	M64082	4013	Q01740	4014	82	Flavin-containing monooxygenase 1	M84719 Rat flavin-containing monooxygenase 1 (FMO-1) mRNA, complete cds /cds=(44, 1642) /gb=M84719 /gi=204151 /ug=Rn.867 /len=2042	Microsomal.
M86235	4015	S32426	4016	X78678	4017	P50053	4018	79	Ketohexokinase e	M86235 Rat ketohexokinase mRNA, complete cds /cds=(48, 944) /gb=M86235 /gi=409148 /ug=Rn.9888 /len=1131	
M86564	4019	P06302	4020	A1859111	4021	XP_038338		93.72	alpha-prothymosin	M86564 Rat alpha-prothymosin mRNA, complete cds /cds=(146, 484) /gb=M86564 /gi=202965 /ug=Rn.817 /len=1162	Nuclear.
M86912	4022	CAA44183	4023	D13814	4024	P30556	4025		Rat angiotensin receptor (AT1) gene, single exon	M86912 exon RATAT1B Rat angiotensin receptor (AT1) gene, single exon	Prothymosin alpha.
M88751	4026	P54287	4027	X786556	4028	P54284	4029	93.76	Calcium channel subunit beta 3	M88751 Rat calcium channel beta subunit-III mRNA, complete cds /cds=(93, 1547) /gb=M88751 /gi=203221 /ug=Rn.2808 /len=2525	"Dihydropyridine-sensitive L-type calcium channel beta-3 subunit(CAB3) (Voltage-dependent calcium channel beta-3 subunit)."
M89953	4030	AAA40614	4031	NM_0000864	4032	P28221	4033	83	5-Hydroxytryptamine (serotonin) receptor 1D	M89953 cds RAT5HT1D Rattus norvegicus 5-HT1D serotonin receptor gene, complete cds	
M90518	4034	P31423	4035	U92457	4036	Q14833	4037	90.07	Glutamate receptor, metabotropic 4	M90518 Rat metotropic glutamate receptor (GluR4) mRNA, complete cds /cds=(854, 3592) /gb=M90518 /gi=205400 /ug=Rn.9682 /len=4488	Metabotropic glutamate receptor 4 precursor (mGluR4).

Table 2.

M90518	4038	P31423	4039	U92457	4040	Q14833	4041	90.07	Glutamate receptor, metabotropic 4		M90518 Rat metabotropic glutamate receptor (GLUR4) mRNA, complete cds /cds=(854,3592) /gb=M90518 /gi=205400 /ug=Rn.9682 /len=4488	Integral membrane protein.	Metabotropic glutamate receptor 4 precursor or (mGluR4).
M91234	4042	No Rat Protein Found.	No human homolog found.	No Human Protein Found.					VL30		M91234 Rat VL30 element mRNA /cds=UNKNOWN /gb=M91234 /gi=207671 /ug=Rn.18005 /len=1131		
M91466	4043	P29276	4044	M97759	4045	P29275	4046	86.92	A2b-adenosine receptor mRNA		M91466 Rattus norvegicus A2b-adenosine receptor mRNA, complete cds /cds=(107,1105) /gb=M91466 /gi=202587 /ug=Rn.10428 /len=1839	Integral membrane protein.	Adenosine A2b receptor.
M91590	4047	P29067	4048	AF106941	4049	P32121	4050	90.67	beta-arrestin2.		M91590 Rat beta-arrestin2 mRNA, complete cds /cds=(191,1423) /gb=M91590 /gi=949986 /ug=Rn.25040 /len=1758		"Beta-arrestin 2 (Arrestin, beta 2)."
M91590	4051	P29067	4052	AF106941	4053	P32121	4054	90.67	beta-arrestin2.		M91590 Rat beta-arrestin2 mRNA, complete cds /cds=(191,1423) /gb=M91590 /gi=949986 /ug=Rn.25040 /len=1758		"Beta-arrestin 2 (Arrestin, beta 2)."
M91595	4055	AAA918	4056	XM_00263	4057	XP_00263	4058	.64	Insulin-like growth factor binding protein 2 gene, exon 1		M91595exon RAT1LGFBPA Rattus norvegicus insulin-like growth factor binding protein-2 gene, exon 1		
M91595	4059	AAA918	4060	XM_00263	4061	XP_00263	4062	64	Insulin-like growth factor binding protein 2 gene, exon 1		M91595exon RAT1LGFBPA Rattus norvegicus insulin-like growth factor binding protein-2 gene, exon 1		
M91599	4063	AAA411	4064	NM_0020	4065	P22455	4066	83	Fibroblast growth factor receptor subtype 4		M91599mRNA RAT1FGR4A Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds		
M91599	4067	AAA411	4068	Y13901	4069	CAA742	4070	83	fibroblast growth factor receptor subtype 4 (FGFR4)		M91599mRNA RAT1FGR4A Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds		

Table 2.

M91599	4071	AAA411 57	4072	NM_0020 11	4073	P22455	4074	83	Fibroblast growth factor receptor subtype 4	M91599mRNA RATFGFR4A Rat fibroblast mRNA, complete cds
M91599	4075	AAA411 57	4076	Y13901	4077	CAA742 00	4078	83	Fibroblast growth factor receptor subtype 4 (FGFR4)	M91599mRNA RATFGFR4A Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds
M91652	4079	P09606	4080	Y00387	4081	P15104	4082	92	Glutamine synthetase (glutamate- ammonia ligase)	M91652completeSeq Rat glutamine synthetase (glnA) mRNA, complete cds /cds=UNKNOWN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2793
M91652	4083	P09606	4084	Y00387	4085	P15104	4086	92	Glutamine synthetase (glutamate- ammonia ligase)	M91652completeSeq Rat glutamine synthetase (glnA) mRNA, complete cds /cds=UNKNOWN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2793
M91802	4087	P31246	4088	NM_0067 35	4089	NP_006 726	4090	95.69	Homeobox protein (Hox 1.11)	M91802 Rattus norvegicus homeobox protein (Hox 1.11) mRNA, complete cds /cds=(194,1312) /gb=M91802 /gi=204641 /ug=Rn.11240 /len=1576
M92059	4091	AAB319 22	4092	AJ313463	4093	P00746	4094	64	Adipsin	S73894 M92059 RATADPSNP Rattus norvegicus adipsin mRNA sequence
M92340	4095	P40190	4096	S80479	4097	P40189	4098	92.7	Rat (clones rLG[08,14-25]) interleukin 6 signal transducer mRNA	M92340 RATGP130A Rat (clones rLG[08,14-25]) interleukin 6 signal transducer mRNA sequence

Table 2.

M93017	4099	Q64566	4100	AF225981	4101	P98194	4102	91.44	alternatively spliced mRNA.	M93017 Rat alternatively spliced mRNA /cds=(178,2937) /gb=M93017 /gi=202861 /ug=Rn.5805 /len=4625	Integral membrane protein.
M93257	4103	CAA78	4104	XM_033799		XP_033799		79	cathechol-O-methyltransferase	Z12651 M93257 RATSLCCOMT Rattus norvegicus cathechol-O-methyltransferase mRNA, 3 flank	"Calcium-transporting ATPase type 2C, member 1 (EC 3.6.3.8) (ATPase2C1) (ATP-dependent Ca2+ pump PMR1)."
M93297	4105	AAA420	4106	NM_00002	4107	P04181	4108	86	ornithine aminotransferase	M93297 cds RATROAT04 Rattus norvegicus ornithine aminotransferase (OAT) gene, exon 7	
M93401	4109	Q02253	4110	AK026842	4111	Q02252	4112	96.08	Methylmalonate semialdehyde dehydrogenase gene, complete cds /cds=(81,1688) /gb=M93401 /gi=205525 /ug=Rn.1645 /len=2059	M93401 Rattus norvegicus methylmalonate semialdehyde dehydrogenase gene, complete cds /cds=(81,1688) /gb=M93401 /gi=205525 /ug=Rn.1645 /len=2059	Mitochondrial "Methylmalonate semialdehyde dehydrogenase [acylating], mitochondrial precursor (EC 1.2.1.27) (MMSDH)."
M93661	4113	Q9QW30	4114	AA725658	4115	AAA363	4116	91.95	Notch gene homolog 2, (Drosophila) [Rattus norvegicus].	NM_02435 M93661 Rat notch 2 mRNA /cds=UNKNOWN /gb=M93661 /gi=205573 /ug=Rn.13245 /len=8287	Type I membrane protein. Following proteolytical processing NICD is translocated to the nucleus.
M93669	4117	P10362	4118	BC022509	4119	P13521	4120	83.93	Secretogranin II	M93669 Rat secretogranin II mRNA, complete cds /cds=(30,1889) /gb=M93669 /gi=206902 /ug=Rn.11392 /len=2289	Neuroendocri Secretogranin II precursor (SGII) (Chromogranin C).

Table 2.

M94537	4121	Q01066	4122	U56976	4123	Q01064	4124	90.32	Cyclic nucleotide phosphodiesterase (CaM-PDE)	M94537 Rattus rattus cyclic nucleotide phosphodiesterase (CaM-PDE) mRNA, complete cds /cds=(74,1681) /gb=M94537 /gi=203268 /ug=Rn.9930 /len=1831	Cytoplasmic. "Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1B (EC 3.1.4.17) (Cam-PDE 1B) (63 kDa Cam-PDE)."
M94555	4125	P12760	4126	BC012908	4127	P48645	4128	82.45	Neuromedin U mRNA	M94555 Rat neuromedin U mRNA, complete cds /cds=(112,636) /gb=M94555 /gi=205745 /ug=Rn.9712 /len=707	Secreted. Neuromedin U-23 precursor (NmU-23).
M95591	4129	Q02769	4130	S76822	4131	P37268	4132	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum. Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).
M95591	4133	Q02769	4134	S76822	4135	P37268	4136	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum. Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).
M95591	4137	Q02769	4138	S76822	4139	P37268	4140	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum. Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).

Table 2.

M95591	4141	Q02769	4142	S76822	4143	P37268	4144	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum. Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesytransferase)
M95768	4145	Q01460	4146	NM_004388	4147	Q01459	4148	82	di-N-acetylchitobiose	M95768 Rattus norvegicus di-N-acetylchitobiase mRNA, complete cds /cds=(0,1103) /gb=M95768 /gi=203452 /ug=Rn.11199 /len=1616	Lysosomal. Di-N-acetylchitobiase precursor (EC 3.2.1.-).
M96375	4149	Q63373	4150	AF064842	4151	P58400	4152	94.29	Non-processed neurexin I-beta	M96375 Rattus norvegicus non-processed neurexin I-beta mRNA, complete cds /cds=(822,2228) /gb=M96375 /gi=205712 /ug=Rn.8930 /len=2441	Type I membrane protein . Neurexin 1-beta precursor (Neurexin I-beta).
M96601	4153	P31643	4154	XM_042939	4155	XP_0429393	4156	87	Taurine transporter	M96601 Rattus norvegicus taurine transporter mRNA, complete cds /cds=(126,1991) /gb=M96601 /gi=207541 /ug=Rn.9968 /len=2476	Integral membrane protein. Taurine transporter.
M96626	4157	Q64568	4158	U15689	4159	Q16720	4160	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.

Table 2.

M96626	4161	Q64568	4162	U15689	4163	Q16720	4164	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8)(Plasm a membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).
M96626	4165	Q64568	4166	U15689	4167	Q16720	4168	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8)(Plasm a membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).
M96626	4169	Q64568	4170	U15689	4171	Q16720	4172	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8)(Plasm a membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).

Table 2.

M96853	4173	P31016	4174	AF156495	4175	AAD561	4176	99	Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein (PSD-95), homologue of discs-large tumor suppressor protein	M96853 Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein mRNA, complete cds /cds=(57,2231) /gb=M96853 /gi=206454 /ug=Rn.9765 /len=3066	CONCENTRATED AT SYNAPTIC JUNCTIONS PRIMARILY ON THE PRESYNAPTIC SIDE (WAS ORIGINALLY THOUGHT TO BE POSTSYNAPTIC).	"Presynaptic density protein 95 (PSD-95) (Presynaptic protein SAP90)(Synaps e-associated protein 90) (Discs, large homolog 4)." "Discs, large homolog 4."
M96853	4177	P31016	4178	AF156495	4179	AAD561	4180	99	Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein (PSD-95), homologue of discs-large tumor suppressor protein	M96853 Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein mRNA, complete cds /cds=(57,2231) /gb=M96853 /gi=206454 /ug=Rn.9765 /len=3066	CONCENTRATED AT SYNAPTIC JUNCTIONS PRIMARILY ON THE PRESYNAPTIC SIDE (WAS ORIGINALLY THOUGHT TO BE POSTSYNAPTIC).	"Presynaptic density protein 95 (PSD-95) (Presynaptic protein SAP90)(Synaps e-associated protein 90) (Discs, large homolog 4)." "Discs, large homolog 4."
M99567	4181	A45493		NM_0009	4182	Q01970	4183	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA		
M99567	4184	A45493		NM_0009	4185	Q01970	4186	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA		
M99567	4187	A45493		NM_0009	4188	Q01970	4189	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA		

Table 2.

AA6849 19	4190	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA684919 EST105769 Rattus norvegicus cDNA, 3 end /clone=RPCAR53 /clone_end=3 /gb=AA684919 /gi=Rn.14682 /len=301	
AA6852 21	4191	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA685221 EST106628 Rattus norvegicus cDNA, 3 end /clone=RPCBE53 /clone_end=3 /gb=AA685221 /gi=2671819 /ug=Rn.14676 /len=325	
AA6859 74	4192 23	BAB251	4193	BC013949	4194 AAH139 49	4195 88.5 Hypothetical Protein	rc_AA685974 EST108806 Rattus norvegicus cDNA, 3 end /clone=RPNAH48 /clone_end=3 /gb=AA685974 /gi=2672572 /ug=Rn.14668 /len=371
AA6861 64	4196 598	AAH05	4197	AF064603	4198 XP_006 135	4199 92.14 Mus musculus, Similar to dendritic cell protein, clone MGC:11741 IMAGE:3969335, mRNA, complete cds	BC005598 rc_AA686164 EST109401 Rattus norvegicus cDNA, 3 end /clone=RPNAR24 /clone_end=3 /gb=AA686164 /gi=2672762 /ug=Rn.3390 /len=373
AA7992 79	4200	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male heart cDNA, RIKEN	rc_AA799279 EST188776 Rattus norvegicus cDNA, 3 end /clone=RHEAA06 /clone_end=3 /gb=AA799279 /gi=2862234 /ug=Rn.4182 /len=619	
AA7992 79	4201	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male heart cDNA, RIKEN	rc_AA799279 EST188776 Rattus norvegicus cDNA, 3 end /clone=RHEAA06 /clone_end=3 /gb=AA799279 /gi=2862234 /ug=Rn.4182 /len=619	
AA7992 99	4202	P39069	4203	AB021871	4204 P00568 4205 85.94 Adenylate kinase 1	rc_AA799299 EST188796 Rattus norvegicus cDNA, 3 end /clone=RHEAA18 /clone_end=3 /gb=AA799299 /gi=2862254 /ug=Rn.8563 /len=506	

Table 2.

AA7993 4206	NP_062422	4207	X07743	4208	P08567	4209	86.54	pleckstrin (Rilek)	NM_01954 g	rc_AA799323 EST188820 Rattus norvegicus cDNA, 3 end /clone=RHEAA31 /clone_end=3 /gb=AA799323 /gi=2862278 /ug=Rn.6178 /len=328
AA7993 4210	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No				EST (not recognized)		rc_AA799328 EST188825 Rattus norvegicus cDNA, 3 end /clone=RHEAA34 /clone_end=3 /gb=AA799328 /gi=2862283 /ug=Rn.757 /len=637
AA7993 4211	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No				EST (not recognized)		rc_AA799328 EST188825 Rattus norvegicus cDNA, 3 end /clone=RHEAA34 /clone_end=3 /gb=AA799328 /gi=2862283 /ug=Rn.757 /len=637
AA7993 4212	AAK58116	4213	NM_015946	4214	XP_032895	4215	91.76	Pelota	AF148638	rc_AA799330 EST188827 Rattus norvegicus cDNA, 3 end /clone=RHEAA35 /clone_end=3 /gb=AA799330 /gi=2862285 /ug=Rn.3842 /len=617
AA7993 4216	No Rat Protein Found.	AF043896	4217	No Human Protein Found.	No	97	Mus musculus, clone IMAGE:359117 05			rc_AA799336 EST188893 Rattus norvegicus cDNA, 3 end /clone=RHEAA74 /clone_end=3 /gb=AA799336 /gi=2862351 /ug=Rn.263 /len=637
AA7993 4218	No Rat Protein Found.	AF043896	4219	No Human Protein Found.	No	97	Mus musculus, clone IMAGE:359117 05			rc_AA799336 EST188893 Rattus norvegicus cDNA, 3 end /clone=RHEAA74 /clone_end=3 /gb=AA799336 /gi=2862351 /ug=Rn.263 /len=637
AA7994 4220	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No				EST(not recognised)		rc_AA799406 EST188903 Rattus norvegicus cDNA, 3 end /clone=RHEAA79 /clone_end=3 /gb=AA799406 /gi=2862361 /ug=Rn.90 /len=591
AA7994 4221	No Rat Protein Found.	BC012458	4222	No Human Protein Found.	No	91.82	Homo sapiens, clone IMAGE:38609 08		rc_AA799410 EST188907 Rattus norvegicus cDNA, 3 end /clone=RHEAA81 /clone_end=3 /gb=AA799410 /gi=2862365 /ug=Rn.3326 /len=612	
AA7994 4223	No Rat Protein Found.	BC012458	4224	No Human Protein Found.	No	91.82	Homo sapiens, clone IMAGE:38609 08		rc_AA799410 EST188907 Rattus norvegicus cDNA, 3 end /clone=RHEAA81 /clone_end=3 /gb=AA799410 /gi=2862365 /ug=Rn.3326 /len=612	

Table 2.

AA7994 4225	KIRTCE	4226	X65293	4227	Q02156	4228	96	ESTs, Highly similar to PROTEIN KINASE C, EPSILON TYPE [R.norvegicus]	rc_AA799421 EST188918 Rattus norvegicus cDNA, 3 end /clone=RHEAA87 /gi=2862376 /ug=Rn.19951 /gb=AA799421 /len=570
AB0496 4229	BAB408	4230	NM_0140	4231	NP_054797	4232	88.83	Mus musculus MRPL13 mRNA for mitochondrial ribosomal protein L13	rc_AA799440 EST188937 Rattus norvegicus cDNA, 3 end /clone=RHEAB09 /gi=2862395 /ug=Rn.6185 /len=705
AA7994 4233	No Rat Protein Found.	NM_018480	4234	No Human Protein Found.			82.89	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799442 EST188939 Rattus norvegicus cDNA, 3 end /clone=RHEAB11 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 4235	No Rat Protein Found.	NM_018480	4236	No Human Protein Found.			82.89	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799442 EST188939 Rattus norvegicus cDNA, 3 end /clone=RHEAB11 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 4237	No Rat Protein Found.	NM_018480	4238	AAF67658	4239	82.89	EST (not recognized for rat)		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3 end /clone=RHEAB11 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 4240	No Rat Protein Found.	NM_018480	4241	No Human Protein Found.			82.89	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799442 EST188939 Rattus norvegicus cDNA, 3 end /clone=RHEAB11 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 4242	No Rat Protein Found.	NM_018480	4243	No Human Protein Found.			82.89	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799442 EST188939 Rattus norvegicus cDNA, 3 end /clone=RHEAB11 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 4244	No Rat Protein Found.	NM_018480	4245	AAF67658	4246	82.89	EST (not recognized for rat)		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3 end /clone=RHEAB11 /gi=2862397 /ug=Rn.3826 /len=649

Table 2.

AA7994 48	4247	No Rat Protein Found.	BF_09813	4248	P13726	4249	96.15	EST(not recognised)	rc_AA799448 EST188945 Rattus norvegicus cDNA, 3 end /clone=RHEAB18 /clone_end=3 /gb=AA799448 /gi=2862403 /ug=Rn.8296 /len=615
AA7994 48	4250	No Rat Protein Found.	BF_09813	4251	P13726	4252	96.15	EST (not recognised)	rc_AA799448 EST188945 Rattus norvegicus cDNA, 3 end /clone=RHEAB18 /clone_end=3 /gb=AA799448 /gi=2862403 /ug=Rn.8296 /len=615
AA7994 49	NP_032 698								rc_AA799449 EST188946 Rattus norvegicus cDNA, 3 end /clone=RHEAB19 /clone_end=3 /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA7994 49	NP_032 698								rc_AA799449 EST188946 Rattus norvegicus cDNA, 3 end /clone=RHEAB19 /clone_end=3 /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA7994 49	NP_032 698								rc_AA799449 EST188946 Rattus norvegicus cDNA, 3 end /clone=RHEAB19 /clone_end=3 /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA7994 49	NP_032 698								rc_AA799449 EST188946 Rattus norvegicus cDNA, 3 end /clone=RHEAB19 /clone_end=3 /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA7994 49	NP_032 698								rc_AA799449 EST188946 Rattus norvegicus cDNA, 3 end /clone=RHEAB19 /clone_end=3 /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA7994 65	4265	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.	No	long interspersed repeated element LINE	rc_AA799455 EST188962 Rattus norvegicus cDNA, 3 end /clone=RHEAB36 /clone_end=3 /gb=AA799465 /gi=2862420 /ug=Rn.6188 /len=644	
AA7994 67	4266	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.	No	EST (not recognized)	rc_AA799467 EST188964 Rattus norvegicus cDNA, 3 end /clone=RHEAB38 /clone_end=3 /gb=AA799467 /gi=2862422 /ug=Rn.4036 /len=568	
AA7994 73	4267	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.	No	EST(not recognised)	rc_AA799473 EST188970 Rattus norvegicus cDNA, 3 end /clone=RHEAB44 /clone_end=3 /gb=AA799473 /gi=2862428 /ug=Rn.2928 /len=577	

Table 2.

AA7994 74	4268	BC0056 20	4269	AA043228	4270	BC0010 06	4271	97.16	Homo sapiens, cytochrome c- 1, clone	AA799474	rc_AA799474 EST188971 Rattus norvegicus cDNA, 3 end /clone=RHEAB45 /clone_end=3 /gb=AA799474 /gi=2862429 /ug=Rn.1413 /len=687
AA7994 75	4272	No Rat Protein Found.	BI769995	4273	No Human Protein Found.			88.74	Mus musculus 8 days embryo cDNA, RIKEN		rc_AA799475 EST188972 Rattus norvegicus cDNA, 3 end /clone=RHEAB46 /clone_end=3 /gb=AA799475 /gi=2862430 /ug=Rn.4291 /len=633
AA7994 79	4274	No Rat Protein Found.	U65579	4275	O00217	4276	92.96	NADH dehydrogenase (ubiquinone) Fe-S protein 8 (23kD)		rc_AA799479 EST188976 Rattus norvegicus cDNA, 3 end /clone=RHEAB52 /clone_end=3 /gb=AA799479 /gi=2862434 /ug=Rn.3373 /len=681	
AA7994 79	4277	No Rat Protein Found.	U65579	4278	O00217	4279	92.96	NADH dehydrogenase (ubiquinone) Fe-S protein 8 (23kD)		rc_AA799479 EST188976 Rattus norvegicus cDNA, 3 end /clone=RHEAB52 /clone_end=3 /gb=AA799479 /gi=2862436 /ug=Rn.3373 /len=681	
AA7994 81	4280	NP_068 676	4281	AF099032	4282	XP_051 181	4283	97.06	Ectoderm development (Eed),	NM_02187	rc_AA799481 EST188978 Rattus norvegicus cDNA, 3 end /clone=RHEAB54 /clone_end=3 /gb=AA799481 /gi=2862436 /ug=Rn.3939 /len=673
AA7994 87	4284	No Rat Protein Found.			No human homolog found.				EST(not recognised)	rc_AA799487 EST188984 Rattus norvegicus cDNA, 3 end /clone=RHEAB63 /clone_end=3 /gb=AA799487 /gi=2862442 /ug=Rn.6192 /len=737	
AA7994 88	4285	No Rat Protein Found.	AK025159	4286	No Human Protein Found.			80.53	EST(not recognised)		rc_AA799488 EST188985 Rattus norvegicus cDNA, 3 end /clone=RHEAB64 /clone_end=3 /gb=AA799488 /gi=2862443 /ug=Rn.22211 /len=654
AA7994 97	4287	No Rat Protein Found.			No human homolog found.				Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799497 EST188994 Rattus norvegicus cDNA, 3 end /clone=RHEAB74 /clone_end=3 /gb=AA799497 /gi=2862452 /ug=Rn.3793 /len=513	

Table 2.

AA7994 97	4288	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799497 EST188994 Rattus norvegicus cDNA, 3 end /clone=RHEAB74 /clone_end=3 /gb=AA799497 /gi=2862452 /ug=Rn.3793 /len=513	
AA7994 99	NP_079 873	4290	AF047183	4291	O43676	4292	87.14 Homo sapiens NADH dehydrogenase e (ubiquinone) 1 beta subcomplex
AA7995 01	4293	Q63362	4294	AA083919	4295	XP_044 022	96.8 Homo sapiens ribosomal protein S4, X- linked
AA7995 07	4296	No Rat Protein Found.					Mus musculus 18 days embryo cDNA, RIKEN full- length enriched library, clone:1190010 C13
AA7995 11	4297	No Rat Protein Found.			AK026373	4298	AAC090 39
							rc_AA799507 EST189004 Rattus norvegicus cDNA, 3 end /clone=RHEAB87 /clone_end=3 /gb=AA799507 /gi=2862462 /ug=Rn.1821 /len=707
							rc_AA799511 EST189008 Rattus norvegicus cDNA, 3 end /clone=RHEAB95 /clone_end=3 /gb=AA799511 /gi=2862466 /ug=Rn.3624 /len=731

Table 2.

AA7995_11	4299	No Rat Protein Found.	AKK026373	4300	AAC090_39		99.24	Homo sapiens BAC clone CTB-119C2 from 7p15, complete sequence (similar to NFE2-related transcription factors)	rc_AA799511 EST189008 Rattus norvegicus cDNA, 3 end /clone=RHEAB95 /clone_end=3 /gb=AA799511 /gi=2862466 /ug=Rn.3624 /len=731
AA7995_15	4301	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST/not recognised)		rc_AA799515 EST189012 Rattus norvegicus cDNA, 3 end /clone=RHEAC03 /clone_end=3 /gb=AA799515 /gi=2862470 /ug=Rn.4063 /len=601
AA7995_25	4302	NP_079634	4303	L04490	4304	Q16795	4305	83	ESTs, Moderately similar to NUEM_HUMA_N_NADH-UBIQUINONE_OXIDOREDUCTASE_39_KDA_SUBUNIT_PRECURSOR_[H.sapiens]`
AA7995_31	4306	AAH13_617	4307	AK000759	4308	XP_047594	4309	90.07	Mus musculus, Similar to hypothetical protein, clone MGC:18941
AA7995_31	4310	AAH13_617	4311	AK000759	4312	XP_047594	4313	90.07	Mus musculus, Similar to hypothetical protein, clone MGC:18941

Table 2.

AA7995 34	4314	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA799534 EST189031 Rattus norvegicus cDNA, 3 end /clone=RHEAC25 /clone_end=3 /gb=AA799534 /gi=2862489 /ug=Rn.8291 /len=556
AA7995 37	4315	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799537 EST189034 Rattus norvegicus cDNA, 3 end /clone=RHEAC28 /clone_end=3 /gb=AA799537 /gi=2862492 /ug=Rn.3798 /len=577
AA7995 39	4316	No Rat Protein Found.	AK000931	4317	NP_005 997	4318	94.31	ESTs, Weakly similar to 2118318A promyelocytic leukemia Zn finger protein [M.musculus]
AA7995 42	4319	No Rat Protein Found.	AJ132695	4320	CAA107 33	4321		rac1 gene
AA7995 50	4322	No Rat Protein Found.						rc_AA799542 EST189039 Rattus norvegicus cDNA, 3 end /clone=RHEAC31 /clone_end=3 /gb=AA799542 /gi=2862497 /ug=Rn.980 /len=553
AA7995 51	4323	S06147	4324	AF322067	4325	Q9BZG1	4326	Mus musculus RIKEN cDNA 9130413122 gene
AA7995 60	4327	No Rat Protein Found.	AK057843	4328	Q9UN36	4329	92.31	Mus musculus 18 days embryo cDNA, RIKEN
								rc_AA799560 EST189057 Rattus norvegicus cDNA, 3 end /clone=RHEAC55 /clone_end=3 /gb=AA799560 /gi=2862515 /ug=Rn.3407 /len=604

Table 2.

AA7995 66	4330 AAK526 70	4331 AK025496 96	4332 AK025496 96	4333 BC0093 96	93.59 MMS19	AF319949 rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595	
AA7995 66	4334 AAK526 70	4335 AK025496 96	4336 BC0093 96	4337 93.59 MMS19	AF319949 rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595		
AA7995 66	4338 AAK526 70	4339 AK025496 96	4340 BC0093 96	4341 93.59 MMS19	AF319949 rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595		
AA7995 66	4342 AAK526 70	4343 AK025496 96	4344 BC0093 96	4345 93.59 MMS19	AF319949 rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595		
AA7995 66	4346 AAK526 70	4347 AK025496 96	4348 BC0093 96	4349 93.59 MMS19	AF319949 rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595		
AA7995 66	4350 AAK526 70	4351 AK025496 96	4352 BC0093 96	4353 93.59 MMS19	AF319949 rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595		
AA7995 75	4354 P14925	4355 AF035320	4356 P19021	4357 91.74 Petidylglycine alpha- amidating monooxygenase	X59689 rc_AA799575 EST189072 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=AA799575 /gi=2862530 /ug=Rn.1121 /len=588	Secretory granules. Peptidyl-glycine alpha-amidating monoxygenase precursor(EC 1.14.17.3) (PAM).	
AA7995 93	4358 AAH08 517	4359 NM_0033 44	4360 P37286	4361 84 ubiquitin- conjugating enzyme E2H (homologous to yeast UBC8)	BC008517 rc_AA799593 EST189090 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=AA799593 /gi=2862548 /ug=Rn.19453 /len=523		

Table 2.

AA7996 00	4362	P43035	4363	L13388	4364	S36113	33	ESTs, Weakly similar to L1S1 MOUSE PLATELET- ACTIVATING FACTOR ACETYLHYD ROLASE IB ALPHA SUBUNIT [R. norvegicus]	rc_AA799600 EST189097 Rattus norvegicus cDNA, 3 end /clone=RHEAC96 /clone_end=3 /gb=AA799600 /gi=2862555 /ug=Rn.3774 /len=591
AA7996 01	4365	No Rat Protein Found.	AA731950	4366	No Human Protein Found.	97.92	Mus musculus 11 days pregnant adult female ovary and uterus cDNA, RIKEN full-length enriched library, clone: 5033430 A12	rc_AA799601 EST189098 Rattus norvegicus cDNA, 3 end /clone=RHEAD03 /clone_end=3 /gb=AA799601 /gi=2862556 /ug=Rn.24537 /len=687	
AA7996 09	4367	No Rat Protein Found.	XM_01201	7	XP_012 017	97	ESTs, Moderately similar to T43443 hypothetical protein DKFZp43A2 315.1 [H.sapiens]	rc_AA799609 EST189106 Rattus norvegicus cDNA, 3 end /clone=RHEAD12 /clone_end=3 /gb=AA799609 /gi=2862564 /ug=Rn.6210 /len=663	
AA7996 09	4368	No Rat Protein Found.	XM_01201	7	XP_012 017	97	ESTs, Moderately similar to T43443 hypothetical protein DKFZp43A2 315.1 [H.sapiens]	rc_AA799609 EST189106 Rattus norvegicus cDNA, 3 end /clone=RHEAD12 /clone_end=3 /gb=AA799609 /gi=2862564 /ug=Rn.6210 /len=663	

Table 2.

AA7996_12	4369	P23567	4370	BC005979	4371	P23567	4372	94.38	Rattus norvegicus	U04308	rc_AA799612 EST189109 Rattus norvegicus cDNA, 3 end /clone=RHEAD15 /clone_end=3 /gb=AA799612 /gi=2862567 /ug=Rn.3530 /len=708	Ubiquitin-conjugating enzyme E2 B (EC 6.3.2.19) (Ubiquitin-protein ligase B) (Ubiquitin carrier protein B) (HR6B) (HHR6B) (E2-17 kDa).
AA7996_33	4373	BAB29792	4374	BC006123	4375	XP_051263	4376	86.84	Homo sapiens hypothetical protein MGC13016		rc_AA799633 EST189130 Rattus norvegicus cDNA, 3 end /clone=RHEAD41 /clone_end=3 /gb=AA799633 /gi=2862588 /ug=Rn.6212 /len=539	
AA7996_37	4377	AAD13197	4378	U09284	4379	P48059	4380	95.65	ESTs, Weakly similar to A55071 hydrogen peroxide-inducible protein hic-5 - mouse	AF095585	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3 end /clone=RHEAD45 /clone_end=3 /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571	
AA7996_37	4381	AAD13197	4382	U09284	4383	P48059	4384	95.65	ESTs, Weakly similar to A55071 hydrogen peroxide-inducible protein hic-5 - mouse	AF095585	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3 end /clone=RHEAD45 /clone_end=3 /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571	
AA7996_41	4385	NP_036162	4386	NM_0068811	4387	NP_0068802	4388	87.72	Mus musculus tumor differentially expressed 1 (Tde1)	NM_012032	rc_AA799641 EST189138 Rattus norvegicus cDNA, 3 end /clone=RHEAD50 /clone_end=3 /gb=AA799641 /gi=2862596 /ug=Rn.3775 /len=665	
AA7996_41	4389	NP_036162	4390	NM_0068811	4391	NP_0068802	4392	87.72	Mus musculus tumor differentially expressed 1 (Tde1)	NM_012032	rc_AA799641 EST189138 Rattus norvegicus cDNA, 3 end /clone=RHEAD50 /clone_end=3 /gb=AA799641 /gi=2862596 /ug=Rn.3775 /len=665	

Table 2.

AA7996 45	4393	O08589	4394	U72245	4395	O00168	4396	61	FXYD domain-containing ion transport regulator 1	NM_03164 cDNA, 3 end /clone=RHEAD54 /gi=Rn.3828 /gb=AA799645 /len=591	rc_AA799645 EST189142 Rattus norvegicus cdNA, 3 end /clone_end=3 /gb=AA799645 /gi=Rn.3828 /len=591	Type I membrane protein.
AA7996 45	4397	O08589	4398	U72245	4399	O00168	4400	61	FXYD domain-containing ion transport regulator 1	NM_03164 cDNA, 3 end /clone=RHEAD54 /gi=2862600 /ug=Rn.3828 /gb=AA799645 /len=591	rc_AA799645 EST189142 Rattus norvegicus cdDNA, 3 end /clone_end=3 /gb=AA799645 /gi=2862600 /ug=Rn.3828 /len=591	Type I membrane protein.
AA7996 50	4401	NP_071 985	4402	NM_0067 93	4403	P30048	4404	84	Peroxiredoxin 3	NM_02254 cDNA, 3 end /clone=RHEAD59 /gi=2862605 /ug=Rn.2011 /gb=AA799650 /len=593	rc_AA799650 EST189147 Rattus norvegicus cdDNA, 3 end /clone_end=3 /gb=AA799650 /gi=2862605 /ug=Rn.2011 /len=593	
AA7996 54	4405	AAH10 776	4406	AL137631	4407	XP_038 053		87.73	Mus musculus, Similar to f-box and WD-40 domain protein 5, clone MGc:18679 IMAGE:42115 92, mRNA, complete cds	BC010776 cDNA, 3 end /clone=RHEAD63 /clone_end=3 /gb=AA799654 /gi=2862609 /ug=Rn.8165 /len=520	rc_AA799654 EST189151 Rattus norvegicus cdDNA, 3 end /clone_end=3 /gb=AA799654 /gi=2862609 /ug=Rn.8165 /len=520	
AA7996 54	4408	AAH10 776	4409	AL137631	4410	XP_038 053		87.73	Mus musculus, Similar to f-box and WD-40 domain protein 5, clone MGc:18679 IMAGE:42115 92, mRNA, complete cds	BC010776 cDNA, 3 end /clone=RHEAD63 /clone_end=3 /gb=AA799654 /gi=2862609 /ug=Rn.8165 /len=520	rc_AA799654 EST189151 Rattus norvegicus cdDNA, 3 end /clone_end=3 /gb=AA799654 /gi=2862609 /ug=Rn.8165 /len=520	
AA7996 56	No Rat Protein Found.	Z68747	4412	No Human Protein Found.		4413	87.97	Mus musculus 10 days embryo cDNA RIKEN	rc_AA799656 EST189153 Rattus norvegicus cdDNA, 3 end /clone=RHEAD65 /clone_end=3 /gb=AA799656 /gi=2862611 /ug=Rn.22173 /len=610	rc_AA799656 EST189153 Rattus norvegicus cdDNA, 3 end /clone_end=3 /gb=AA799656 /gi=2862611 /ug=Rn.22173 /len=610		

Table 2.

AA7996 4414 CAA87 4415 Z68747 4416 CAA929 4417 87.97 Imogen 44	Z46966	rc_AA799656 EST189153 Rattus norvegicus cDNA, 3 end /clone=RHEAD65 /clone_end=3 /gb=AA799656 /gi=2862611 /ug=Rn.22173 /len=610
AA7996 4418 No Rat Protein Found. 4419 Z68747 4419 No Human Protein Found.	4420	87.97 Mus musculus 10 days embryo cDNA, RIKEN
AA7996 4421 CAA87 4422 Z68747 4423 CAA929 4424 87.97 Imogen 44	Z46966	rc_AA799656 EST189153 Rattus norvegicus cDNA, 3 end /clone=RHEAD65 /clone_end=3 /gb=AA799656 /gi=2862611 /ug=Rn.22173 /len=610
AA7996 4425 No Rat Protein Found. NM_0066 4426 No Human Protein Found.	4426	86.3 EST not recognized
AA7996 4427 CAA52 4428 BG699621 4429 No Human Protein Found.	4429	88.65 M.musculus T10 mRNA
AA7996 4430 CAA52 4431 BG699621 4432 No Human Protein Found.	4432	88.65 M.musculus T10
AA7996 4433 CAA52 4434 BG699621 4435 No Human Protein Found.	4435	88.65 M.musculus T10 mRNA
AA7996 4436 CAA52 4437 BG699621 4438 No Human Protein Found.	4438	88.65 M.musculus T10
AA7996 4440 CAB56 4441 NM_0066 4441 NP_0066 4442 98 Rattus norvegicus CDK106	684	Y17326
		rc_AA799667 EST189164 Rattus norvegicus cDNA, 3 end /clone=RHEAD78 /clone_end=3 /gb=AA799667 /gi=2862622 /ug=Rn.22470 /len=541

Table 2.

AA7996 72	4443	P21533	4444	AA307406	4445	XP_050 942	91.09	ribosomal protein L6	X87107	rc_AA799672 EST189169 Rattus norvegicus cDNA, 3 end /clone=RHEAD83 /clone_end=3 /gb=AA799672 /gi=2862627 /ug=Rn.2660 /len=616	60S ribosomal protein L6 (Neoplasm- related protein C140).
AA7996 81	4446	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No	EST(not recognised)					
AA7996 91	4447	AAD38 328	4448	XM_01677 3	XP_016 773	75	putative potassium- chloride cotransporter- 4 (Kcc4	AF087436	rc_AA799681 EST189178 Rattus norvegicus cDNA, 3 end /clone=RHEAD96 /clone_end=3 /gb=AA799681 /gi=2862636 /ug=Rn.20182 /len=461		
AA7997 00	4449	NP_033 292	4450	NM_0122 48	4451	Q99611	4452	78	NM_00926 seleophosphatase 6 2 (Sps2)	rc_AA799700 EST189197 Rattus norvegicus cDNA, 3 end /clone=RHEAE21 /clone_end=3 /gb=AA799700 /gi=2862655 /ug=Rn.6967 /len=628	
AA7997 11	4453	S12207	No human homolog found.	No Human Protein Found.	No	ESTs, Moderately similar to S12207 hypothetical protein [M.musculus]			rc_AA799711 EST189208 Rattus norvegicus cDNA, 3 end /clone=RHEAE37 /clone_end=3 /gb=AA799711 /gi=2862666 /ug=Rn.11447 /len=540		
AA7997 11	4454	S12207	No human homolog found.	No Human Protein Found.	No	ESTs, Moderately similar to S12207 hypothetical protein [M.musculus]			rc_AA799711 EST189208 Rattus norvegicus cDNA, 3 end /clone=RHEAE37 /clone_end=3 /gb=AA799711 /gi=2862666 /ug=Rn.17142 /len=586		
AA7997 18	4455	No Rat Protein Found.	AA806443	4456	No Human Protein Found.		95.05	Mus musculus ES cells cDNA, RIKEN	NM_00908 RNA polymerase 1- 3 (16 kDa subunit)	rc_AA799718 EST189215 Rattus norvegicus cDNA, 3 end /clone=RHEAE44 /clone_end=3 /gb=AA799718 /gi=2862673 /ug=Rn.3816 /len=571	
AA7997 24	4457	NP_033 113	4458	NM_0159 72	4459	Q9Y2S0	4460	92.19	NM_00908 RNA polymerase 1- 3 (16 kDa subunit)	rc_AA799724 EST189221 Rattus norvegicus cDNA, 3 end /clone=RHEAE52 /clone_end=3 /gb=AA799724 /gi=2862679 /ug=Rn.6228 /len=638	
AA7997 26	4461	No Rat Protein Found.	AB051524	4462	No Human Protein Found.		86.89	Mus musculus adult male tongue cDNA, RIKEN	rc_AA799726 EST189223 Rattus norvegicus cDNA, 3 end /clone=RHEAE54 /clone_end=3 /gb=AA799726 /gi=2862681 /ug=Rn.19617 /len=503		

Table 2.

AA7997 32	4463	No Rat Protein Found.	X96484	4464	Q14129	4465	91.03	ESTs, Moderately similar to DGCR6 MOUSE DGCR6 PROTEIN [M.musculus]		rc_AA799732 EST189229 Rattus norvegicus cDNA, 3 end /clone=RHEAE60 /clone_end=3 /gb=AA799732 /gi=2862687 /ug=Rn.22467 /len=579
AA7997 35	4466	AAH06 688	Y17829	4468	XP_001 403	4469	94.46	Mus musculus, HS1 binding protein	BC006688	rc_AA799735 EST189232 Rattus norvegicus cDNA, 3 end /clone=RHEAE63 /clone_end=3 /gb=AA799735 /gi=2862690 /ug=Rn.3544 /len=581
AA7997 35	4470	AAH06 688	Y17829	4471	XP_001 403	4473	94.46	Mus musculus, HS1 binding protein	BC006688	rc_AA799735 EST189232 Rattus norvegicus cDNA, 3 end /clone=RHEAE63 /clone_end=3 /gb=AA799735 /gi=2862690 /ug=Rn.3544 /len=581
AA7997 40	4474	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.			EST(not recognised)	AF177470 EST189237 Rattus norvegicus cDNA, 3 end /clone=RHEAE68 /clone_end=3 /gb=AA799740 /gi=2862695 /ug=Rn.3717 /len=658	rc_AA799740 EST189237 Rattus norvegicus cDNA, 3 end /clone=RHEAE68 /clone_end=3 /gb=AA799740 /gi=2862695 /ug=Rn.3717 /len=658
AA7997 45	4475	AAF602 22	XM_01704 2	4476	XM_01704 2	XP_017 042	82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3 end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568
AA7997 45	4477	AAF602 22	XM_01704 2	4478	XM_01704 2	XP_017 042	82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3 end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568
AA7997 45	4479	AAF602 22	XM_01704 2	4480	XM_01704 2	XP_017 042	82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3 end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568
AA7997 45	4481	AAF602 22	XM_01704 2	4482	XM_01704 2	XP_017 042	82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3 end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568
AA7997 51	4483	No Rat Protein Found.	AV724415	4484	No		85.58	EST(not recognised)	rc_AA799751 EST189248 Rattus norvegicus cDNA, 3 end /clone=RHEAE83 /clone_end=3 /gb=AA799751 /gi=2862706 /ug=Rn.3583 /len=671	rc_AA799751 EST189248 Rattus norvegicus cDNA, 3 end /clone=RHEAE83 /clone_end=3 /gb=AA799751 /gi=2862706 /ug=Rn.3583 /len=671
AA7997 64	4485	No Rat Protein Found.	BC007880	4486	No	Human Protein Found.	91.27	EST(not recognised)	rc_AA799764 EST189261 Rattus norvegicus cDNA, 3 end /clone=RHEAF08 /clone_end=3 /gb=AA799764 /gi=2862719 /ug=Rn.6231 /len=646	rc_AA799764 EST189261 Rattus norvegicus cDNA, 3 end /clone=RHEAF08 /clone_end=3 /gb=AA799764 /gi=2862719 /ug=Rn.6231 /len=646

Table 2.

AA7997_66	4487	No Rat Protein Found.	NM_006303	4488	Q13155	4489	83.11	JTV1		rc_AA799766 EST189263 Rattus norvegicus cDNA, 3 end /clone=RHEAF10 /clone_end=3 /gb=AA799766 /gi=2862721 /ug=Rn.3333 /len=567
AA7997_71	4490	No Rat Protein Found.	BG779035	4491	No Human Protein Found.		87.38	EST(not recognised)		rc_AA799771 EST189268 Rattus norvegicus cDNA, 3 end /clone=RHEAF15 /clone_end=3 /gb=AA799771 /gi=2862726 /ug=Rn.3821 /len=631
AA7997_71	4492	No Rat Protein Found.	BG779035	4493	No Human Protein Found.		87.38	EST (not recognized)		rc_AA799771 EST189268 Rattus norvegicus cDNA, 3 end /clone=RHEAF15 /clone_end=3 /gb=AA799771 /gi=2862726 /ug=Rn.3821 /len=631
AA7997_73	4494	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		Mus musculus 18 days embryo cDNA, RIKEN			rc_AA799773 EST189270 Rattus norvegicus cDNA, 3 end /clone=RHEAF17 /clone_end=3 /gb=AA799773 /gi=2862728 /ug=Rn.22352 /len=615
AA7997_73	4495	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		Mus musculus 18 days embryo cDNA, RIKEN			rc_AA799773 EST189270 Rattus norvegicus cDNA, 3 end /clone=RHEAF17 /clone_end=3 /gb=AA799773 /gi=2862728 /ug=Rn.22352 /len=615
AA7997_78	4496	P19511	4497	BI461802	4498	NP_001679	4499	86.13 F0-ATPase subunit b	M35052	rc_AA799778 EST189275 Rattus norvegicus cDNA, 3 end /clone=RHEAF23 /clone_end=3 /gb=AA799778 /gi=2862733 /ug=Rn.3689 /len=568
AA7997_79	4500	Q9ES7_1	NM_014236	4502	O15228	4503	80	glyceronephosphate O-acyltransferase (Gnpat)	NM_01032_2	rc_AA799779 EST189276 Rattus norvegicus cDNA, 3 end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679

Table 2.

AA7997 79	4504 Q9ES7 1	4505 NM_0142 36	4506 O15228 4507 AF110769	peroxisomal acyl- CoA:dihydroxy- acetone phosphate acyltransferase	rc_AA799779 EST189276 Rattus norvegicus cDNA, 3 end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOM AL; EXCLUSIVE LY LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOM AL MEMBRANE	Dihydroxyaceto ne phosphate acyltransferase (EC 2.3.1.42) (DHAP- AT)(DAP-AT) (Glycerone- phosphate O- acyltransferase) PEROXISOM (Acyl- CoA:dihydroxy- acetonephosphat eacyltransferase).
AA7997 79	4508 Q9ES7 1	4509 NM_0142 36	4510 O15228 4511 NM_01032	glyceronephos phate O- acyltransferase (Gnpat)	rc_AA799779 EST189276 Rattus norvegicus cDNA, 3 end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOM AL; EXCLUSIVE LY LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOM AL MEMBRANE	Dihydroxyaceto ne phosphate acyltransferase (EC 2.3.1.42) (DHAP- AT)(DAP-AT) (Glycerone- phosphate O- acyltransferase) PEROXISOM (Acyl- CoA:dihydroxy- acetonephosphat eacyltransferase).

Table 2.

AA7997 79	4512 Q9ES7 1	4513 NM_0142	4514 O15228	4515 80	peroxisomal acyl-CoA:dihydroxy acetone phosphate acyltransferase e	AF110769 rc_AA799779 EST189276 Rattus norvegicus cdNA, 3 end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOM Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT)(DAP-AT) (Glycerone-phosphate O- acyltransferase) PEROXISOM (Acyl- CoA:dihydroxy ketonephosphat eacyltransferase).
AA7997 83	4516 No Rat Protein Found.	AI682207	4517 No Human Protein Found.	96.3 EST (not recognised)		rc_AA799783 EST189280 Rattus norvegicus cdNA, 3 end /clone=RHEAF28 /clone_end=3 /gb=AA799783 /gi=2862738 /ug=Rn.129855 /len=609	
AA7997 84	4518 AAD38 018	4519 AL136727	4520 AAH036 17	91.94 RAB6, member RAS oncogene family	AF148210 rc_AA799784 EST189281 Rattus norvegicus cdDNA, 3 end /clone=RHEAF29 /clone_end=3 /gb=AA799784 /gi=2862739 /ug=Rn.1695 /len=673		
AA7998 04	4522 No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA799804 EST189301 Rattus norvegicus cdDNA, 3 end /clone=RHEAF56 /clone_end=3 /gb=AA799804 /gi=2862739 /ug=Rn.25117 /len=582		
AA7998 14	4523 No Rat Protein Found.	U12779	4524 P49137	93.72 EST (not recognised)	rc_AA799814 EST189311 Rattus norvegicus cdDNA, 3 end /clone=RHEAF68 /clone_end=3 /gb=AA799814 /gi=2862739 /ug=Rn.6276 /len=475		
AA7998 22	4526 AAH10 524	4527 No human homolog found.	No Human Protein Found.	EST (mouse hypothetical protein)	rc_AA799822 EST189319 Rattus norvegicus cdDNA, 3 end /clone=RHEAF78 /clone_end=3 /gb=AA799822 /gi=2862777 /ug=Rn.6239 /len=610		
AA7998 22	4528 AAH10 524	4529 No human homolog found.	No Human Protein Found.	EST (mouse hypothetical protein)	rc_AA799822 EST189319 Rattus norvegicus cdDNA, 3 end /clone=RHEAF78 /clone_end=3 /gb=AA799822 /gi=2862777 /ug=Rn.6239 /len=610		
AA7998 24	4530 AAC83 084	4531 J05682	4532 P21283	89.01 vacuolar adenosine triphosphatase subunit C	U13839 rc_AA799824 EST189321 Rattus norvegicus cdDNA, 3 end /clone=RHEAF80 /clone_end=3 /gb=AA799824 /gi=2862779 /ug=Rn.6240 /len=630		

Table 2.

AA7998 54	4534	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA799854 EST189351 Rattus norvegicus cDNA, 3 end /clone=RHEAG17 /clone_end=3 /gb=AA799854 /gi=2862809 /ug=Rn.6244 /len=427
AA7998 58	4535	P49432	4536	AAH0043 9	BC0004 39	4537	Pyruvate dehydrogenase e (lipoamide) beta
AA7998 61	4538	NP_058 546	4539	U73036	4540	Q92985	4541
AA7998 61	4542	NP_058 546	4543	U73036	4544	Q92985	4545
AA7998 89	4546	NP_035 048	4547	A1628792	4548	A47328	4549
AA7998 89	4550	NP_035 048	4551	A1628792	4552	A47328	4553
AA7998 93	4554	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		No	Mus musculus 10 day old male pancreas cDNA, RIKEN
AA7998 93	4555	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		No	Mus musculus 10 day old male pancreas cDNA, RIKEN

rc_AA799858 EST189355 Rattus norvegicus
cDNA, 3 end /clone=RHEAG21 /clone_end=3
/gb=AA799858 /gi=2862813 /ug=Rn.6245
/len=207

rc_AA799861 EST189358 Rattus norvegicus
cDNA, 3 end /clone=RHEAG24 /clone_end=3
/gb=AA799861 /gi=2862816 /ug=Rn.6246
/len=499

NM_01685
0

rc_AA799861 EST189358 Rattus norvegicus
cDNA, 3 end /clone=RHEAG24 /clone_end=3
/gb=AA799861 /gi=2862816 /ug=Rn.6246
/len=499

rc_AA799889 EST189386 Rattus norvegicus
cDNA, 3 end /clone=RHEAG57 /clone_end=3
/gb=AA799889 /gi=2862844 /ug=Rn.3832
/len=510

rc_AA799889 EST189386 Rattus norvegicus
cDNA, 3 end /clone=RHEAG57 /clone_end=3
/gb=AA799889 /gi=2862844 /ug=Rn.3832
/len=510

rc_AA799893 EST189390 Rattus norvegicus
cDNA, 3 end /clone=RHEAG61 /clone_end=3
/gb=AA799893 /gi=2862848 /ug=Rn.1919
/len=523

rc_AA799893 EST189390 Rattus norvegicus
cDNA, 3 end /clone=RHEAG61 /clone_end=3
/gb=AA799893 /gi=2862848 /ug=Rn.1919
/len=523

Table 2.

AA7999 64	4556	No Rat Protein Found.	AK024270	4557	No Human Protein Found.	84.55 18 days embryo cDNA, RIKEN full- length enriched library, clone: 1110046 J11	Mus musculus	rc_AA799964 EST189461 Rattus norvegicus cDNA, 3 end /clone=RHEAH66 /clone_end=3 /gb=AA799964 /gi=2862919 /ug=Rn.6261 /len=452	
AA7999 80	4558	S20392	4559	AW66593 6	O75688 4560	4561	92.5 Protein phosphatase type 1B (formerly 2C), Mg- dependent, beta isoform	rc_AA799980 EST189477 Rattus norvegicus cDNA, 3 end /clone=RHEAH85 /clone_end=3 /gb=AA799980 /gi=2862935 /ug=Rn.4143 /len=551	
AA7999 91	4562	No Rat Protein Found.	Af288393	4563	Q9BZQ6	4564	93.68 EST (not recognized)	rc_AA799991 EST189488 Rattus norvegicus cDNA, 3 end /clone=RHEA101 /clone_end=3 /gb=AA799991 /gi=2862946 /ug=Rn.3844 /len=712	
AA8000 04	4565	BAA980 51	4566	AF035811	4567	O43236	4568	94.25 CDCrel-1A	AB027143 rc_AA800004 EST189501 Rattus norvegicus cDNA, 3 end /clone=RHEA119 /clone_end=3 /gb=AA800004 /gi=2862959 /ug=Rn.6269 /len=649
AA8000 24	4569	NP_033 860	4570	AK021433	4571	NP_036 202	4572	92.76 Attractin	NM_000973 rc_AA800024 EST189521 Rattus norvegicus cDNA, 3 end /clone=RHEA150 /clone_end=3 /gb=AA800024 /gi=2862959 /ug=Rn.22339 /len=579
AA8000 34	4573	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.		EST (not recognized)		
AA8000 34	4574	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.		EST (not recognized)	rc_AA800034 EST189531 Rattus norvegicus cDNA, 3 end /clone=RHEA163 /clone_end=3 /gb=AA800034 /gi=2862989 /ug=Rn.8569 /len=613	
AA8000 36	4575	No Rat Protein Found.	NM_0145 75	4576	NP_055 390	4577	91.37 schwannomin- interacting protein 1 (SCHIP1)	rc_AA800036 EST189533 Rattus norvegicus cDNA, 3 end /clone=RHEA165 /clone_end=3 /gb=AA800036 /gi=2862991 /ug=Rn.22212 /len=514	
AA8000 54	4578	P14118	4579	NM_0009 81	4580	P14118	4581	72 ribosomal protein L19	NM_03110 rc_AA800054 EST189551 Rattus norvegicus cDNA, 3 end /clone=RHEA186 /clone_end=3 /gb=AA800054 /gi=2863009 /ug=Rn.3384 /len=602

Table 2.

AA8000 4582	NP_062708	4583	NM_004315	4584	Q13510	4585	79	N-acylsphingosine amidohydrolase 1 (Asah1)	NM_01973	rc_AA800062 EST189559 Rattus norvegicus cDNA, 3' end /clone=RHEAL95 /clone_end=3 /gb=AA800062 /gi=2863017 /ug=Rn.4158 /len=648
AA8001 4586	No Rat Protein Found.	L10910	4587	CAC11116	4588	97.25	Human DNA sequence from clone RP11-353C18 on chromosome 20		rc_AA800126 EST189623 Rattus norvegicus cDNA, 3' end /clone=RHEAL05 /clone_end=3 /gb=AA800126 /gi=2863081 /ug=Rn.8555 /len=378	
AA8001 4589	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognized)			rc_AA800168 EST189665 Rattus norvegicus cDNA, 3' end /clone=RHEAL95 /clone_end=3 /gb=AA800168 /gi=2863123 /ug=Rn.22112 /len=343	
AA8001 4590	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognized)			rc_AA800177 EST189674 Rattus norvegicus cDNA, 3' end /clone=RHEAM10 /clone_end=3 /gb=AA800177 /gi=2863132 /ug=Rn.3864 /len=576	
AA8001 4591	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognized)			rc_AA800177 EST189674 Rattus norvegicus cDNA, 3' end /clone=RHEAM10 /clone_end=3 /gb=AA800177 /gi=2863132 /ug=Rn.3864 /len=576	
AA8001 4592	No Rat Protein Found.	AB011101	4593	Q9Y4E8	4594	95.31	Homo sapiens ubiquitin specific protease 15		rc_AA800184 EST189681 Rattus norvegicus cDNA, 3' end /clone=RHEAM20 /clone_end=3 /gb=AA800184 /gi=2863139 /ug=Rn.6294 /len=514	
AA8001 4595	AAA41252	4596	AF013570	4597	P35749	4598	92.47	Rat glycogen phosphorylase brain isozyme mRNA, 5'	rc_AA800190 EST189687 Rattus norvegicus cDNA, 3' end /clone=RHEAM27 /clone_end=3 /gb=AA800190 /gi=2863145 /ug=Rn.1518 /len=645	
AA8001 4599	AAA41252	4600	AF013570	4601	P35749	4602	92.47	Rat glycogen phosphorylase brain isozyme mRNA, 5'	rc_AA800190 EST189687 Rattus norvegicus cDNA, 3' end /clone=RHEAM27 /clone_end=3 /gb=AA800190 /gi=2863145 /ug=Rn.1518 /len=645	

Table 2.

AA8001 98	4603	No Rat Protein Found.	BF904759	4604	No Human Protein Found.	93.57	<i>Mus musculus</i> adult male tongue cDNA, RIKEN	rc_AA800198 EST189695 <i>Rattus norvegicus</i> cDNA, 3 end /clone=RHEAM35 /clone_end=3 /gb=AA800198 /gi=2863153 /ug=Rn.3405 /len=556		
AA8001 99	4605	No Rat Protein Found.	BE396293	4606	No Human Protein Found.	85.19	<i>Mus musculus</i> 18 days embryo cDNA, RIKEN	rc_AA800199 EST189696 <i>Rattus norvegicus</i> cDNA, 3 end /clone=RHEAM36 /clone_end=3 /gb=AA800199 /gi=2863154 /ug=Rn.2990 /len=631		
AA8002 12	4607	P11507	4608	M23114	4609	P16615	4610	91.03 ATPase, Ca++ transporting, cardiac muscle, slow twitch 2	rc_AA800212 EST189709 <i>Rattus norvegicus</i> cDNA, 3 end /clone=RHEAM51 /clone_end=3 /gb=AA800212 /gi=2863167 /ug=Rn.2305 /len=727	INTEGRAL MEMBRANE PROTEIN, SARCOPLASMIC RETICULUM MIC
AA8002 20	4611	NP_037_138	4612	BE018412	4613	NP_006_321	4614	92.42 Lysophospholipase	rc_AA800220 EST189717 <i>Rattus norvegicus</i> cDNA, 3 end /clone=RHEAM59 /clone_end=3 /gb=AA800220 /gi=2863175 /ug=Rn.3594 /len=720	"Sarcoplasmic/endoplasmic reticulum calcium ATPase 2 (EC 3.6.3.8)(Calcium pump 2) (SERCA2) (SR Ca(2+)-ATPase 2) (Calcium-transporting ATPase sarcoplasmic reticulum type, slow twitch skeletal muscle isoform"
AA8002 21	4615	AAK503_99	4616	AF129505	4617	Q9UHP9	4618	85.65 SMPX protein	rc_AA800221 EST189718 <i>Rattus norvegicus</i> cDNA, 3 end /clone=RHEAM60 /clone_end=3 /gb=AA800221 /gi=2863176 /ug=Rn.4123 /len=459	
AA8002 24	4619	No Rat Protein Found.	AK001441	4620	No Human Protein Found.	4621	87.13 EST (not recognized)	rc_AA800224 EST189721 <i>Rattus norvegicus</i> cDNA, 3 end /clone=RHEAM64 /clone_end=3 /gb=AA800224 /gi=2863179 /ug=Rn.18772 /len=553		

Table 2.

AA8002 4622 CAA62 4623 AB027011 4624 CAB400 4625 87.86 R.norvegicus mRNA for unknown protein (PIPpin)	rc_AA800228 EST189725 Rattus norvegicus cDNA, 3 end /clone=RHEAM68 /clone_end=3 /gb=AA800228 /gi=2863183 /ug=Rn.1171 /len=669
AA8002 4626 NP_031728 AF041378 4627 4628 O60543 4629 85.45 rc_AA800243 EST189740 Rattus norvegicus cDNA, 3 end /clone=RHEAM86 /clone_end=3 /gb=AA800243 /gi=2863198 /ug=Rn.8171 /len=613	NM_007702 NM_007702 EST189740 Rattus norvegicus cDNA, 3 end /clone=RHEAM86 /clone_end=3 /gb=AA800260 /gi=2863215 /ug=Rn.3448 /len=623
AA8002 4630 No Rat Protein Found.	No Human homolog found.
AA8002 4631 AAH02146 XM_006736 4632 4633 No Human homolog found.	XP_006736 similar to HSPC160 protein (EST)
AA8002 4633 No Rat Protein Found.	X063234 P09001 4634 91.16 Mus musculus adult male kidney cDNA, RIKEN
AA8002 4636 No Rat Protein Found.	No Human homolog found.
AA8002 4637 No Rat Protein Found.	No Human homolog found.
AA8002 4638 No Rat Protein Found.	No Human homolog found.

Table 2.

AA8002 90	4639	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA800290 EST189787 Rattus norvegicus cDNA, 3 end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4640	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA800290 EST189787 Rattus norvegicus cDNA, 3 end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4641	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA800290 EST189787 Rattus norvegicus cDNA, 3 end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8003 03	4642	NP_076 053	4643	NM_0203 60	4644	Q9NRY6	4645
AA8003 05	4646	NM_02 2692		XM_05346 1		XP_053 461	
AA8003 18	4647	B26423	4648	M13203	4649	ITHUC1	4650
AA8005 35	4651	No Rat Protein Found.		AF247703	4652	T47144	4653

Table 2.

AA8005 70	4654	No Rat Protein Found.	R29498	4655	No Human Protein Found.	95.61	Homo sapiens chromosome 15 clone RP11-64K12		rc_AA800570 EST190067 Rattus norvegicus cDNA, 3 end /clone=RLUAB41 /clone_end=3 /gb=AA800570 /gi=2863525 /ug=Rn.3346 /len=496
AA8005 72	4656	No Rat Protein Found.	AF041037	4657	O43809	4658	93.99 Homo sapiens novel antagonist of FGF signaling (sprouty-1)		rc_AA800572 EST190069 Rattus norvegicus cDNA, 3 end /clone=RLUAB42 /clone_end=3 /gb=AA800572 /gi=2863527 /ug=Rn.22787 /len=473
AA8005 97	4659	No Rat Protein Found.							rc_AA800597 EST190094 Rattus norvegicus cDNA, 3 end /clone=RLUAB60 /clone_end=3 /gb=AA800597 /gi=2863552 /ug=Rn.1149 /len=596
AA8005 97	4660	No Rat Protein Found.			No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA800597 EST190094 Rattus norvegicus cDNA, 3 end /clone=RLUAB60 /clone_end=3 /gb=AA800597 /gi=2863552 /ug=Rn.1149 /len=596
AA8006 22	4661	No Rat Protein Found.	AK056690	4662	No Human Protein Found.	93.8	EST (not recognized)		rc_AA800622 EST190119 Rattus norvegicus cDNA, 3 end /clone=RLUAB76 /clone_end=3 /gb=AA800622 /gi=2863577 /ug=Rn.22788 /len=652
AA8006 37	4663	BAB274	4664	AF147398	4665	No Human Protein Found.	Homo sapiens full length insert cDNA clone		rc_AA800637 EST190134 Rattus norvegicus cDNA, 3 end /clone=RLUAB84 /clone_end=3 /gb=AA800637 /gi=2863592 /ug=Rn.2033 /len=639
AA8006 39	4666	No Rat Protein Found.			No human homolog found.		EST (not recognised)		rc_AA800639 EST190136 Rattus norvegicus cDNA, 3 end /clone=RLUAB85 /clone_end=3 /gb=AA800639 /gi=2863594 /ug=Rn.6615 /len=583
AA8006 51	4667	No Rat Protein Found.	NM_006243	4668	Q15172	4669	89 protein phosphatase 2, regulatory subunit B (B56)		rc_AA800651 EST190148 Rattus norvegicus cDNA, 3 end /clone=RLUAB91 /clone_end=3 /gb=AA800651 /gi=2863606 /ug=Rn.1519 /len=539

Table 2.

AA8006 63	4670 NP_532	NP_075 532	4671 AB018288	4672 Q9UJA9	4673 RAN binding protein 16	95.48 Mus musculus 5	NM_02304 cDNA, 3 end /clone=RLUAK04 /clone_end=3 /gb=AA800663 /gi=2863618 /ug=Rn.7664 /len=362
AA8006 71	4674 NP_624	NP_006 624	4675 U51903	4676 Q13576	4677 IQ motif containing GTPase activating protein 2	96.75 Mus musculus 3	NM_006663 cDNA, 3 end /clone=RLUAK13 /clone_end=3 /gb=AA800671 /gi=2863626 /ug=Rn.3743 /len=590
AA8006 73	No Rat Protein Found.		D79986	4679 No Human Protein Found.	4680 10, 11 days embryo cDNA, RIKEN	96.84 Mus musculus 10, 11 days embryo cDNA, RIKEN	rc_AA800673 EST190168 Rattus norvegicus cDNA, 3 end /clone=RLUAK15 /clone_end=3 /gb=AA800673 /gi=2863628 /ug=Rn.22282 /len=698
AA8006 78	No Rat Protein Found.		No Human homolog found.	No Human Protein Found.		EST (not recognised)	rc_AA800678 EST190170 Rattus norvegicus cDNA, 3 end /clone=RLUAK20 /clone_end=3 /gb=AA800678 /gi=2863633 /ug=Rn.8592 /len=452
AA8006 80	4682 BAB282 31	4683 No human homolog found.	No Human homolog found.	No Human Protein Found.		EST (mouse hypothetical protein)	rc_AA800680 EST190177 Rattus norvegicus cDNA, 3 end /clone=RLUAK23 /clone_end=3 /gb=AA800680 /gi=2863635 /ug=Rn.22790 /len=826
AA8006 84	4684 PT0198		M36881	4685 P06239	4686 P06239	91.54 ESTs, Moderately similar to TYROSINE- PROTEIN KINASE LYN [R..norvegicus]	rc_AA800684 EST190181 Rattus norvegicus cDNA, 3 end /clone=RLUAK27 /clone_end=3 /gb=AA800684 /gi=2863639 /ug=Rn.22791 /len=501
AA8006 84	4687 PT0198		M36881	4688 P06239	4689 P06239	91.54 ESTs, Moderately similar to TYROSINE- PROTEIN KINASE LYN [R..norvegicus]	rc_AA800684 EST190181 Rattus norvegicus cDNA, 3 end /clone=RLUAK27 /clone_end=3 /gb=AA800684 /gi=2863639 /ug=Rn.22791 /len=501

Table 2.

AA8006 86	4690	No Rat Protein Found.	D86962	4691	Q13322	4692	93.94	Similar to growth factor receptor-binding protein Grb10	rc_AA800686 EST190163 Rattus norvegicus cDNA, 3 end /clone=RLUAK29 /clone_end=3 /gb=AA800686 /gi=2863641 /ug=Rn.3751 /len=632
AA8006 86	4693	No Rat Protein Found.	D86962	4694	Q13322	4695	93.94	Similar to growth factor receptor-binding protein Grb10	rc_AA800686 EST190183 Rattus norvegicus cDNA, 3 end /clone=RLUAK29 /clone_end=3 /gb=AA800686 /gi=2863641 /ug=Rn.3751 /len=632
AA8006 93	4696	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	Mus musculus adult male tongue cDNA, RIKEN			rc_AA800693 EST190190 Rattus norvegicus cDNA, 3 end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=533
AA8006 93	4697	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	EST (not recognized)			rc_AA800693 EST190190 Rattus norvegicus cDNA, 3 end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=533
AA8006 93	4698	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	EST (not recognized)			rc_AA800693 EST190190 Rattus norvegicus cDNA, 3 end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=533
AA8006 93	4699	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	Mus musculus adult male tongue cDNA, RIKEN			rc_AA800693 EST190190 Rattus norvegicus cDNA, 3 end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=533
AA8006 99	4700	No Rat Protein Found.	AK027812	4701	No	4702	88.44	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110065 L07	rc_AA800699 EST190196 Rattus norvegicus cDNA, 3 end /clone=RLUAK42 /clone_end=3 /gb=AA800699 /gi=2863654 /ug=Rn.6621 /len=634

Table 2.

AA8006 99	4703	No Rat Protein Found.	AK027812	4704 517	XP_028	4705	88.44	ESTs, Weakly similar to YN60_YEAST HYPOTHETIC PROTEIN IN KRE1-HXT14 INTERGENIC REGION [S.cerevisiae]	rc_AA800699 EST190196 Rattus norvegicus cDNA, 3 end /clone=RLUAK42 /clone_end=3 /gb=AA800699 /gi=2863654 /ug=Rn.6621 /len=634
AA8007 01	4706	No Rat Protein Found.	BF109813	4707	P13726	4708	96.15	Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA800701 EST190198 Rattus norvegicus cDNA, 3 end /clone=RLUAK44 /clone_end=3 /gb=AA800701 /gi=2863656 /ug=Rn.8296 /len=385
AA8007 08	4709	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.		EST(not recognised)		rc_AA800708 EST190205 Rattus norvegicus cDNA, 3 end /clone=RLUAK52 /clone_end=3 /gb=AA800708 /gi=2863663 /ug=Rn.3886 /len=641
AA8007 19	4710	No Rat Protein Found.	AL133060	4711	XP_043 341		83.12	KIAA1181 protein	rc_AA800719 EST190216 Rattus norvegicus cDNA, 3 end /clone=RLUAK63 /clone_end=3 /gb=AA800719 /gi=2863674 /ug=Rn.6624 /len=663
AA8007 19	4712	No Rat Protein Found.	AL133060	4713	XP_043 341		83.12	KIAA1181 protein	rc_AA800719 EST190216 Rattus norvegicus cDNA, 3 end /clone=RLUAK63 /clone_end=3 /gb=AA800719 /gi=2863674 /ug=Rn.6624 /len=663
AA8007 35	4714	No Rat Protein Found.	AFF051850	4715	No	4716	92.92	Mus musculus, Similar to supervillin, clone IMAGE:35895 33	rc_AA800735 EST190232 Rattus norvegicus cDNA, 3 end /clone=RLUAK81 /clone_end=3 /gb=AA800735 /gi=2863690 /ug=Rn.6627 /len=552

Table 2.

AA8007 4717	No Rat Protein Found.	AF051850	4718	No Human Protein Found.	4719	92.92	Mus musculus, Similar to supervillin, clone IMAGE:368953		rc_AA800735 EST190232 Rattus norvegicus cDNA, 3 end /clone=RLUAK81 /clone_end=3 /gb=AA800735 /gi=2863690 /ug=Rn.6627 /len=552
AA8007 4720	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)				rc_AA800749 EST190246 Rattus norvegicus cDNA, 3 end /clone=RLUAL02 /clone_end=3 /gb=AA800749 /gi=2863704 /ug=Rn.1897 /len=637
AA8007 4721	CAC17 143	AK027892	4723	CAC176 09	4724	93.28	RanBP7/importin 7 [Mus musculus]		rc_AA800753 EST190250 Rattus norvegicus cDNA, 3 end /clone=RLUAL06 /clone_end=3 /gb=AA800753 /gi=2863708 /ug=Rn.17156 /len=475
AA8007 4725	CAC17 143	AK027892	4726	CAC176 09	4728	93.28	RanBP7/importin 7 [Mus musculus]		rc_AA800753 EST190250 Rattus norvegicus cDNA, 3 end /clone=RLUAL06 /clone_end=3 /gb=AA800753 /gi=2863708 /ug=Rn.17156 /len=475
AA8007 4729	No Rat Protein Found.	AW57310 2	4730	No Human Protein Found.		95.98	EST(not recognised)		rc_AA800768 EST190265 Rattus norvegicus cDNA, 3 end /clone=RLUAL23 /clone_end=3 /gb=AA800768 /gi=2863723 /ug=Rn.4116 /len=651
AA8007 4731	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)				rc_AA800772 EST190269 Rattus norvegicus cDNA, 3 end /clone=RLUAL27 /clone_end=3 /gb=AA800772 /gi=2863727 /ug=Rn.6639 /len=600
AA8007 4732	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)				rc_AA800782 EST190279 Rattus norvegicus cDNA, 3 end /clone=RLUAL38 /clone_end=3 /gb=AA800782 /gi=2863737 /ug=Rn.3621 /len=554
AA8007 4733	XP_010 337	NM_0139 95	4734	P13473	4735		Lysosomal-associated membrane protein 2 (LAMP2)	XM_010337	rc_AA800787 EST190284 Rattus norvegicus cDNA, 3 end /clone=RLUAL44 /clone_end=3 /gb=AA800787 /gi=2863742 /ug=Rn.4117 /len=520
AA8007 4736	No Rat Protein Found.	U18543	4737	Q13049	4738	89.76	Mus musculus 10 day old male pancreas		rc_AA800794 EST190291 Rattus norvegicus cDNA, 3 end /clone=RLUAL53 /clone_end=3 /gb=AA800794 /gi=2863749 /ug=Rn.4118 /len=644
AA8008 4739	No Rat Protein Found.	AK026608	4740	No Human Protein Found.	4741	92.08	EST (not recognized)		rc_AA800803 EST190300 Rattus norvegicus cDNA, 3 end /clone=RLUAL62 /clone_end=3 /gb=AA800803 /gi=2863758 /ug=Rn.2245 /len=534

Table 2.

AA8008 03	4742	No Rat Protein Found.	AK026608	4743	No Human Protein Found.	4744	92.08	EST (not recognized)	rc_AA800803 EST190300 Rattus norvegicus cDNA, 3 end /clone=RLUAL62 /clone_end=3 /gb=AA800803 /gi=2863758 /ug=Rn.2245 /len=534
AA8008 14	4745	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA800814 EST190311 Rattus norvegicus cDNA, 3 end /clone=RLUAL75 /clone_end=3 /gb=AA800814 /gi=2863769 /ug=Rn.19955 /len=470
AA8008 50	4746	No Rat Protein Found.	L13689	4747	P35226	4748	91.67	murine leukemia viral (bmi-1) oncogene homolog (BM1),	rc_AA800850 EST190347 Rattus norvegicus cDNA, 3 end /clone=RLUAM24 /clone_end=3 /gb=AA800850 /gi=2863805 /ug=Rn.17998 /len=470
AA8008 82	4749	No Rat Protein Found.	AA708838	4750	No Human Protein Found.		96.88	Mus musculus 11 days embryo head cDNA, RIKEN	rc_AA800882 EST190379 Rattus norvegicus cDNA, 3 end /clone=RLUAM60 /clone_end=3 /gb=AA800882 /gi=2863837 /ug=Rn.24136 /len=379
AA8009 08	4751	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA800908 EST190405 Rattus norvegicus cDNA, 3 end /clone=RLUAM90 /clone_end=3 /gb=AA800908 /gi=2863863 /ug=Rn.6663 /len=297
AA8009 28	4752	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA800928 EST190425 Rattus norvegicus cDNA, 3 end /clone=RLUAN23 /clone_end=3 /gb=AA800928 /gi=2863883 /ug=Rn.23969 /len=460
AA8009 62	4753	NP_035 732	AF177198	4755	Q9Y490	4756	90	Talin	NM_01160 2 rc_AA800962 EST190459 Rattus norvegicus cDNA, 3 end /clone=RLUAN59 /clone_end=3 /gb=AA800962 /gi=2863917 /ug=Rn.6674 /len=495

Table 2.

AA8011 30	4757	P29354	4758	BCC00631	4759	P29354	4760	93.36	growth factor receptor bound protein 2 (Grb2),	NM_00816 3	rc_AA801130 EST190627 Rattus norvegicus cDNA, 3 end /clone=ROVAA74 /clone_end=3 /gb=AA801130 /gi=2864085 /ug=Rn.3360 /len=613	Growth factor receptor-bound protein 2 (GRB2 adapter protein)(SH2/SH 3 adapter GRB2) (ASH protein).
AA8178 43	4761	P22569	4762	XM_04919 4	XP_049 194				nuclear transcription factor Y, beta (NFYB),	NM_03155 3	rc_AA817843 UI-R-A0-ae-f-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ae-f- 09-0-Ul /clone_end=3 /gb=AA817843 /gi=2887723 /ug=Rn.1131 /len=618	CCAAT-binding transcription factor subunit A (CBF-A) (NF-Y proteinchain B) (NF-YB) (CAAT- box DNA binding protein subunit B).
AA8178 54	4763	P13635	4764	M13699	4765	P00450	4766	86.44	GP1-anchored ceruloplasmin	AF202115	rc_AA817854 UI-R-A0-ae-g-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-ae-g-10-0-Ul /clone_end=3 /gb=AA817854 /gi=2946779 /ug=Rn.8598 /len=438	Ceruloplasmin precursor (EC 1.16.3.1) (Ferroxidase).
AA8179 97	4767	P38663	4768	AA380579	4769	P38663	4770	91	ribosomal protein L24	X78443	rc_AA817997 UI-R-A0-ah-b-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-ah-b-07-0-Ul /clone_end=3 /gb=AA817997 /gi=2887877 /ug=Rn.1214 /len=564	60S ribosomal protein L24 (L30).
AA8179 97	4771	P38663	4772	AA380579	4773	P38663	4774	91	ribosomal protein L24	X78443	rc_AA817997 UI-R-A0-ah-b-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-ah-b-07-0-Ul /clone_end=3 /gb=AA817997 /gi=2887877 /ug=Rn.1214 /len=564	60S ribosomal protein L24 (L30).

Table 2.

AA8180 25	4775	P27274	4776	AF052941	4777	NP_000 602	4778	92.06	CD59 antigen	NM_01292 5	rc_AA818025 UI-R-A0-ai-a-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-ai-a-06-0-Ul /clone_end=3 /gb=AA818025 /gi=2887905 /ug=Rn.1231 /len=487	Attached to membrane by a GPI-anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibitionfactor) (MACIF) (MAC-inhibitory protein) (MAC-IP) (Protectin).
AA8180 25	4779	P27274	4780	AF052941	4781	NP_000 602	4782	92.06	CD59 antigen	NM_01292 5	rc_AA818025 UI-R-A0-ai-a-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-ai-a-06-0-Ul /clone_end=3 /gb=AA818025 /gi=2887905 /ug=Rn.1231 /len=487	Attached to membrane by a GPI-anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibitionfactor) (MACIF) (MAC-inhibitory protein) (MAC-IP) (Protectin).
AA8181 52	4783	P10111	4784	AA071425	4785	P05092	4786	95.02	Cyclophilin	rc_AA818152 UI-R-A0-am-b-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-am-b-09-0-Ul /clone_end=3 /gb=AA818152 /gi=2888032 /ug=Rn.16465 /len=117	Cytoplasmic.	Peptidyl-prolyl cis-trans isomerase A (EC 5.2.1.8) (PPase) (Rotamase)(Cyclophilin A) (Cyclosporin A-binding protein) (P31).	
AA8185 93	4787	NP_071 983	4788	D29641	4789	P42285	4790	91.88	Phosphatidate phosphohydrolase type 2	NM_02253 8	rc_AA818593 UI-R-A0-bc-g-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-bc-g-01-0-Ul /clone_end=3 /gb=AA818593 /gi=2889332 /ug=Rn.1944 /len=475		
AA8185 93	4791	NP_071 983	4792	D29641	4793	P42285	4794	91.88	Phosphatidate phosphohydrolase type 2	NM_02253 8	rc_AA818593 UI-R-A0-bc-g-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-bc-g-01-0-Ul /clone_end=3 /gb=AA818593 /gi=2889332 /ug=Rn.1944 /len=475		

Table 2.

AA8186	4795	P16884	4796	BC014185	4797	XP_037	4798	89.73	Rat heavy neurofilament subunit (NF-H) mRNA, 3' end	M21964	rc_AA818677 UI-R-A0-az-a-04-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A0-az-a-04-0-Ui /clone_end=3 /gb=AA818677 /gi=2888263 /ug=Rn.1429 /len=601	Neurofilament triplet H protein (200 kDa neurofilament protein)(Neurofilament heavy polypeptide) (NF-H) (Fragment).	
AA8187	4799	No Rat Protein Found.		U37221	4800	NP_055152	4801	88.62	Homo sapiens peptidylprolyl isomerase (cyclophilin)-like 2	rc_AA818726 UI-R-A0-ay-f-04-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A0-ay-f-04-0-Ui /clone_end=3 /gb=AA818726 /gi=2888312 /ug=Rn.22468 /len=464			
AA8188	4802	NP_063972	4803	XM_031570	XP_031	570		99	postsynaptic protein CRIP7	NM_01990	rc_AA818843 UI-R-A0-ar-g-04-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A0-ar-g-04-0-Ui /clone_end=3 /gb=AA818843 /gi=2888429 /ug=Rn.12394 /len=452		
AA8188	4804	P10111	4805	AA071425	4806	P05092	4807	95.02	Peptidylprolyl isomerase A (cyclophilin A)	NM_017101	rc_AA818858 UI-R-A0-ar-h-08-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A0-ar-h-08-0-Ui /clone_end=3 /gb=AA818858 /gi=2888444 /ug=Rn.1463 /len=611	Cytoplasmic Peptidyl-prolyl cis-trans isomerase A (EC 5.2.1.8) (PP1ase) (Rotamase) (Cyclophilin A) (Cyclosporin A-binding protein) (P31).	
AA8193	4808	Q07984	4809	Z69043	4810	P51571	4811	87.92	Signal sequence receptor, delta		rc_AA819338 UI-R-A0-bc-c-12-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A0-bc-c-12-0-Ui /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocase-associated protein, delta subunit precursor (TRAP-delta)(Signal sequence receptor delta subunit) (SSR-delta)."

Table 2.

AA8193 38	4812	Q07984	4813	Z69043	4814	P51571	4815	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-c-12-0-Ul-s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-bc-c-12-0-Ul /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum. "Translocation-associated protein, delta subunit precursor (TRAP-delta)(Signal sequence receptor delta subunit) (SSR-delta)."
AA8193 38	4816	Q07984	4817	Z69043	4818	P51571	4819	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-c-12-0-Ul-s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-bc-c-12-0-Ul /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum. "Translocation-associated protein, delta subunit precursor (TRAP-delta)(Signal sequence receptor delta subunit) (SSR-delta)."
AA8193 38	4820	Q07984	4821	Z69043	4822	P51571	4823	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-c-12-0-Ul-s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-bc-c-12-0-Ul /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum. "Translocation-associated protein, delta subunit precursor (TRAP-delta)(Signal sequence receptor delta subunit) (SSR-delta)."
AA8195 00	4824	AAH03 335	4825	M87339	4826	P35249	4827	91.87	ESTs, Highly similar to AC12_HUMA_N ACTIVATOR 1 37 KD SUBUNIT [H.sapiens]	rc_AA819500 UI-R-A0-bi-c-04-0-Ul-s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-A0-bi-c-04-0-Ul /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524	

Table 2.

AA8195 00	4828 335	AAH03 4829	M87339 4830	P35249 4831	91.87 ESTs, Highly similar to AC12_HUMA N	BC003335 norvegicus cDNA, 3 end /clone=UI-R-A0-bi-c- 04-0-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524
AA8195 00	4832 335	AAH03 4833	M87339 4834	P35249 4835	91.87 ESTs, Highly similar to AC12_HUMA N	BC003335 norvegicus cDNA, 3 end /clone=UI-R-A0-bi-c- 04-0-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524
AA8195 00	4836 335	AAH03 4837	M87339 4838	P35249 4839	91.87 ESTs, Highly similar to AC12_HUMA N	BC003335 norvegicus cDNA, 3 end /clone=UI-R-A0-bi-c- 04-0-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524
AA8485 45	NP_062 719	BC002506 4842	AAH025 06	4843	100 programmed cell death 10 (Pcd10)	NM_01974 norvegicus cDNA, 3 end /clone=EST191305 Rattus norvegicus /gb=AA848545 /gi=2936085 /ug=Rn.1176 /len=565
AA8488 31	Q61130 4844	NM_0014 01	4845 Q92633	4846 4847	89.94 putative G- protein coupled receptor GPCR91	AF090347 norvegicus cDNA, 3 end /clone=RK1AC95 /clone_end=3 /gb=AA848831 /gi=2936371 /ug=Rn.11200 /len=525
AA8490 38	P12947 4848	BC001663 4850	NP_000 984	4851	96.25 Ribosomal protein L31	NM_022250 norvegicus cDNA, 3 end /clone=RLUAG91 /clone_end=3 /gb=AA849038 /gi=2936578 /ug=Rn.1101 /len=581
AA8496 48	P20280 4853	X04790 4854	P10398 4855		92.86 Rattus norvegicus ribosomal protein L21 mRNA, complete cds	rc_AA849648 EST192415 Rattus norvegicus cDNA, 3 end /clone=RMUAH28 /clone_end=3 /gb=AA849648 /gi=2937188 /ug=Rn.2554 /len=413
						60S ribosomal protein L21.

Table 2.

AA8496 48	4856	P20280	4857	X04790	4858	P10398	4859	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds	rc_AA849648 EST192415 Rattus norvegicus cDNA, 3 end /clone=RMUAI28 /clone_end=3 /gb=AA849648 /gi=2937188 /ug=Rn.2554 /len=413	60S ribosomal protein L21.
AA8496 48	4860	P20280	4861	X04790	4862	P10398	4863	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds	rc_AA849648 EST192415 Rattus norvegicus cDNA, 3 end /clone=RMUAI28 /clone_end=3 /gb=AA849648 /gi=2937188 /ug=Rn.2554 /len=413	60S ribosomal protein L21.
AA8496 48	4864	P20280	4865	X04790	4866	P10398	4867	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds	rc_AA849648 EST192415 Rattus norvegicus cDNA, 3 end /clone=RMUAI28 /clone_end=3 /gb=AA849648 /gi=2937188 /ug=Rn.2554 /len=413	60S ribosomal protein L21.
AA8497 69	4868	Q62632	4869	U06863	4870	Q12841	4871	93	Follistatin- related protein precursor	rc_AA849769 EST192536 Rattus norvegicus cDNA, 3 end /clone=RMUAI64 /clone_end=3 /gb=AA849769 /gi=2937309 /ug=Rn.2979 /len=608	Secreted. Follistatin- related protein 1 precursor.
AA8497 69	4872	Q62632	4873	U06863	4874	Q12841	4875	93	Follistatin- related protein precursor	rc_AA849769 EST192536 Rattus norvegicus cDNA, 3 end /clone=RMUAI64 /clone_end=3 /gb=AA849769 /gi=2937309 /ug=Rn.2979 /len=608	Secreted. Follistatin- related protein 1 precursor.
AA8497 69	4876	Q62632	4877	U06863	4878	Q12841	4879	93	Follistatin- related protein precursor	rc_AA849769 EST192536 Rattus norvegicus cDNA, 3 end /clone=RMUAI64 /clone_end=3 /gb=AA849769 /gi=2937309 /ug=Rn.2979 /len=608	Secreted. Follistatin- related protein 1 precursor.
AA8497 69	4880	Q62632	4881	U06863	4882	Q12841	4883	93	Follistatin- related protein precursor	rc_AA849769 EST192536 Rattus norvegicus cDNA, 3 end /clone=RMUAI64 /clone_end=3 /gb=AA849769 /gi=2937309 /ug=Rn.2979 /len=608	Secreted. Follistatin- related protein 1 precursor.
AA8501 38	4884	B27390	4885	A318022	4886	P01842	4887	68	Ig lambda-2 chain C region	rc_AA850138 EST192905 Rattus norvegicus cDNA, 3 end /clone=ROVAC84 /clone_end=3 /gb=AA850138 /gi=2937678 /ug=Rn.129 /len=474	

Table 2.

AA8507 34	4888 P16612	4889 XM_05267	XP_052 676	Vascular endothelial growth factor 5	NM_00950 cDNA, 3 end /clone=ROVAK16 /clone_end=3 /gb=AA850734 /gi=2938274 /ug=Rn.1923 /len=477	"VEGF-A120 is acidic and freely secreted. VEGF-A164 is more basic, has heparin-binding properties and, although a significant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
AA8507 81	No Rat Protein Found.	L11667	4891	Q08752	4892	93.89 Mus musculus 18 days embryo cDNA, RIKEN	rc_AA850781 EST193549 Rattus norvegicus cDNA, 3 end /clone=ROVAK70 /clone_end=3 /gb=AA850781 /gi=2938321 /ug=Rn.7995 /len=550
AA8509 40	4893 P50878	4894 L20868	4895 P36578	4896 Ribosomal protein L4	92	rc_AA850940 EST193708 Rattus norvegicus cDNA, 3 end /clone=ROVAO65 /clone_end=3 /gb=AA850940 /gi=2938480 /ug=Rn.1133 /len=619	60S ribosomal protein L4 (L-1).
AA8513 81	4897 Q62639	4898 AW02041	4899 4	Q15582	4900	94.63 Ras homolog enriched in brain	rc_AA851381 EST194149 Rattus norvegicus cDNA, 3 end /clone=RPLAF91 /clone_end=3 /gb=AA851381 /gi=2938921 /ug=Rn.859 /len=618
AA8514 03	4901 337	NP_080 337	4902 BI4888555	4903 XP_030 429	94.34 ESTs, Moderately similar to JE0382 NADH dehydrogenase [H. sapiens]	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3 end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393	GTP-binding protein Rheb.

Table 2.

AA8514 03	4904	NP_080 337	4905	BI488555	4906	XP_030 429	94.34	Homo sapiens NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 8	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3 end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393
AA8514 03	4907	NP_080 337	4908	BI488555	4909	XP_030 429	94.34	ESTs, Moderately similar to JE0382 NADH dehydrogenase [H.sapiens]	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3 end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393
AA8514 03	4910	NP_080 337	4911	BI488555	4912	XP_030 429	94.34	Homo sapiens NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 8	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3 end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393
AA8520 04	4913	P09606	4914	XW_04646 8		XP_046 468	92	Glutamine synthetase	NM_01707 3
AA8520 55	4915	P55146	4916	U02566	4917	Q06418	4918	88.67 Sky - brain specific tyrosine kinase	rc_AA852004 EST194773 Rattus norvegicus cDNA, 3 end /clone=RSPAP38 /clone_end=3 /gb=AA852004 /gi=2939544 /ug=Rn.2204 /len=368
AA8585 72	No Rat Protein Found.							EST (not recognized)	Type I membrane protein.
AA8585 72	No Rat Protein Found.			No human homolog found.				rc_AA858572 UI-R-E0-bq-f04-0-Ui,s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bq-f- 04-0-Ui /clone_end=3 /gb=AA858572 /gi=2946912 /ug=Rn.83 /len=436	Tyrosine-protein kinase receptor TYRO3 precursor (EC 2.7.1.112)(Tyros ine-protein kinase SKY).

Table 2.

AA8585 86	4920	AAC40 052	4921	U56402	4922	P51809	4923	88.09	Mus musculus chromatin structural protein homolog Supt5hp	U88539	rc_AA858586 UI-R-E0-bq-g-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bq-g-07-0-Ul /clone_end=3 /gb=AA858586 /gi=2948926 /ug=Rn.92 /len=413
AA8585 86	4924	AAC40 052	4925	U56402	4926	P51809	4927	88.09	Mus musculus chromatin structural protein homolog Supt5hp	U88539	rc_AA858586 UI-R-E0-bq-g-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bq-g-07-0-Ul /clone_end=3 /gb=AA858586 /gi=2948926 /ug=Rn.92 /len=413
AA8586 07	4928	No Rat Protein Found.		No human homolog found.					EST (not recognized)	rc_AA858607 UI-R-E0-bq-a-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bq-a-08-0-Ul /clone_end=3 /gb=AA858607 /gi=2948947 /ug=Rn.3532 /len=487	
AA8586 17	4929	NP_075 764	4930	AK027278	4931	XP_050 746	4932	91	TC10-like Rho GTPase	NM_02327 5	rc_AA858617 UI-R-E0-bq-b-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bq-b-06-0-Ul /clone_end=3 /gb=AA858617 /gi=2948957 /ug=Rn.22615 /len=546
AA8586 40	4933	No Rat Protein Found.		No human homolog found.					Rat CDK110 mRNA (Y17319) / HSP60 (NM_022229) (Double cDNA)	rc_AA858640 UI-R-E0-bq-d-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bq-d-08-0-Ul /clone_end=3 /gb=AA858640 /gi=2948980 /ug=Rn.221 /len=463	
AA8588 79	4934	NP_036 005	4935	AB009398	4936	Q9UNM 6	4937	90.48	Mus musculus proteasome (prosome, macropain) 26S subunit, non-ATPase, 13 (Psmd13)	NM_01187 5	rc_AA858879 UI-R-A0-bd-b-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- A0-bd-b-09-0-Ul /clone_end=3 /gb=AA858879 /gi=2948230 /ug=Rn.16918 /len=520
AA8594 83	4938	No Rat Protein Found.		AW90502 0	4939	No Human Protein Found.		92.08	EST (not recognized)	rc_AA859483 UI-R-E0-bv-f-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-bv-f- 07-0-Ul /clone_end=3 /gb=AA859483 /gi=2949003 /ug=Rn.231 /len=416	

Table 2.

AA8595 24	4940	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA859524 UI-R-E0-br-b-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-b- 07-0-Ul /clone_end=3 /gb=A859524 /gi=2949044 /ug=Rn.251 /len=482							
AA8595 29	4941	Q9ERM 3	4942	BI521353	4943	XP_035 370	4944	89.11	Dacyglycerol acyltransferase e	AF296131	rc_AA859529 UI-R-E0-br-b-12-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-b- 12-0-Ul /clone_end=3 /gb=AA859529 /gi=2949049 /ug=Rn.252 /len=431	Integral membrane protein. Endoplasmic reticulum .	Dacyglycerol O- acyltransferase 1 (EC 2.3.1.20) (Diglycerideacyl transferase).
AA8595 81	4945	AAD16 986	4946	NM_0314	4947	NP_113 664	4948	86	Rattus norvegicus late gestation lung protein 1 (lg1) mRNA, complete cds	AF109674	rc_AA859581 UI-R-E0-bv-d-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bv-d-0-Ul /clone_end=3 /gb=AA859581 /gi=2949101 /ug=Rn.4346 /len=540		
AA8595 81	4949	AAD16 986	4950	NM_0314	4951	NP_113 664	4952	86	Rattus norvegicus late gestation lung protein 1 (lg1) mRNA, complete cds	AF109674	rc_AA859581 UI-R-E0-bv-d-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bv-d-0-Ul /clone_end=3 /gb=AA859581 /gi=2949101 /ug=Rn.4346 /len=540		
AA8595 97	4953	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA859597 UI-R-E0-bs-e-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bs-e-07-0-Ul /clone_end=3 /gb=AA859597 /gi=2949117 /ug=Rn.8504 /len=464							
AA8595 97	4954	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA859597 UI-R-E0-bs-e-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bs-e-07-0-Ul /clone_end=3 /gb=AA859597 /gi=2949117 /ug=Rn.8504 /len=464							
AA8596 27	4955	No Rat Protein Found.	AB046797	4956	No Human Protein Found.	97.14	EST (not recognized)	rc_AA859627 UI-R-E0-bs-h-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bs-h-03-0-Ul /clone_end=3 /gb=AA859627 /gi=2949147 /ug=Rn.25 /len=419					

Table 2.

AA8596 32	4957	NP_035 388	4958	L23320	4959	AAA161 21	4960		Mus musculus replication factor C, 140 kDa (RecC1)	NM_01125 8	rc_AA859632 UI-R-E0-bs-h-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bs-h-08-0-Ul /clone_end=3 /gb=AA859632 /gi=2949152 /ug=Rn.6208 /len=446		
AA8596 65	4961	No Rat Protein Found.	No	No human homolog found.	No	Human Protein Found.	Mus musculus adult male testis cDNA, Riken			rc_AA859665 UI-R-E0-bs-g-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bs-c-09-0-Ul /clone_end=3 /gb=AA859665 /gi=2949185 /ug=Rn.43 /len=400			
AA8596 88	4962	NP_057 918	4963	X79888	4964	NP_001 689	4965	90.35	AU RNA- binding protein/enoyl- coenzyme A hydrolase	NM_01670 9	rc_AA859688 UI-R-E0-bx-e-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bx-e-09-0-Ul /clone_end=3 /gb=AA859688 /gi=2949208 /ug=Rn.50 /len=438		
AA8596 90	4966	No Rat Protein Found.	No	No human homolog found.	No	Human Protein Found.			EST(not recognised)		rc_AA859690 UI-R-E0-bx-e-11-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bx-e-11-0-Ul /clone_end=3 /gb=AA859690 /gi=2949210 /ug=Rn.51 /len=419		
AA8596 93	4967	No Rat Protein Found.	AK001631	4968	No	Human Protein Found.		4969	88.52	EST (not recognized)		rc_AA859693 UI-R-E0-bx-f-02-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-bx-f- 02-0-Ul /clone_end=3 /gb=AA859693 /gi=2949213 /ug=Rn.24864 /len=505	
AA8597 02	4970	Q01205	4971	AI184508	4972	P55196	4973	95.76	Afadin (AF-6)	NM_01321 7	rc_AA859702 UI-R-E0-bx-g-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bx-g-01-0-Ul /clone_end=3 /gb=AA859702 /gi=2949222 /ug=Rn.58 /len=486	Mitochondrial "Dihydrolipoami- de succinyltransfer ase component of 2- oxoglutaratedeh- ydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)."	
AA8597 18	4974	No Rat Protein Found.									EST (not recognized)		
											rc_AA859718 UI-R-E0-bx-h-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bx-h-05-0-Ul /clone_end=3 /gb=AA859718 /gi=2949238 /ug=Rn.66 /len=476		

Table 2.

AA8597 19	4975 750	NP_079	4976	No human homolog found.	No Human Protein Found.		EST, weakly similar to Mus musculus cDNA, 3 end /clone=Ui-R-E0-bx-h-06-0-Ul.s1	NM_02547	rc_AA859719 Ui-R-E0-bx-h-06-0-Ul.s1		
AA8597 40	4977 48	BAA892	4978	XM_01769 8	4979	XP_01717 698	4980	84	heparan sulfate-6-sulfotransfase 1	AB024566	rc_AA859740 Ui-R-E0-bx-b-06-0-Ul.s1
AA8597 50	4981	No Rat Protein Found.		AI671553	4982	No Human Protein Found.		95.88	EST (not recognized)	Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bx-b-06-0-Ul /clone_end=3	/gb=AA859719 /gi=2949239 /ug=Rn.67 /len=514
AA8597 83	4983	P09896	4984	NM_0210 29	4985	NP_066 357	4986	100	Rattus norvegicus large subunit ribosomal protein L36a	NM_03110	rc_AA859750 Ui-R-E0-bx-c-05-0-Ul.s1
AA8597 88	4987	BAB409 98	4988	AK026165	4989	P82912	4990	86.49	Mus musculus MRPS11 mRNA for mitochondrial ribosomal protein S11	NM_03110	rc_AA859783 Ui-R-E0-bu-f-04-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bu-f-04-0-Ul /clone_end=3
AA8598 05	4991	No Rat Protein Found.		L21186	4992	Q08357	4993	94.04	Mus musculus, Similar to [lysyl] oxidase-like 1, clone IMAGE:3488791	AB049945	rc_AA859788 Ui-R-E0-bu-f-11-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bu-f-11-0-Ul /clone_end=3
AA8598 27	4994 85	BAA830	4995	BF745219	4996	P04155	4997	93.27	uridine-Cytidine kinase 2	rc_AA859805 Ui-R-E0-bu-h-10-0-Ul.s1	Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bu-h-10-0-Ul /clone_end=3
AA8598 32	4998	No Rat Protein Found.		AI139056	4999	No Human Protein Found.		91	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA859827 Ui-R-E0-cc-f-10-0-Ul.s1	Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-cc-g-04-0-Ul.s1
										/gi=AA859805 /gi=2949325 /ug=Rn.770 /len=433	/gb=AA859827 /gi=24811 /len=500
										/gi=2949347 /ug=Rn.22318 /len=558	/gb=AA859832 /gi=2949352 /ug=Rn.22318 /len=558

Table 2.

AA8598 37	5000 P36577	5001 NM_0042 93	5002 Q9Y2T3	5003 Q9Y2T3	87.87 Guanine deaminase	rc_AA859837 UI-R-E0-cc-g-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cc-g-09-0-Ul /clone_end=3 /gb=AA859837 /gi=2949357 /ug=Rn.24783 /len=486	Arrestin-D (Fragment).
AA8598 37	5004 P36577	5005 NM_0042 93	5006 Q9Y2T3	5007 Q9Y2T3	87.87 Guanine deaminase	rc_AA859837 UI-R-E0-cc-g-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cc-g-09-0-Ul /clone_end=3 /gb=AA859837 /gi=2949357 /ug=Rn.24783 /len=486	Arrestin-D (Fragment).
AF0313 81	5008 AAB864 95	5009 NM_0183 39	5010 NP_060 809	5011 Mus musculus KOI-4 gene, partial cds	AA859848 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cc-h-10-0-Ul /clone_end=3 /gb=AA859848 /gi=2949368 /ug=Rn.790 /len=549	rc_AA859848 UI-R-E0-cc-h-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cc-h-10-0-Ul /clone_end=3 /gb=AA859848 /gi=2949368 /ug=Rn.790 /len=549	
AA8598 97	5012 AF3048 55	5013 XM_00732 5	5014 XP_007 325	5015 XP_007 325	92 sel-1 (suppressor of lin-12, C.elegans)- like (SEL1L),	AAK54860 rc_AA859897 UI-R-E0-cg-a-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-a-01-0-Ul /clone_end=3 /gb=AA859897 /gi=2949417 /ug=Rn.808 /len=582	"TYPE II "CMP-N- acetylneuramina te-beta- galactosamide- alpha-2-3- sialyltransferase (EC 2.4.99.-) MEMBRANE- PROTEIN BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."
AA8599 11	5016 Q11205	5017 X96667	5018 JC5251	5019 JC5251	87.89 Sialyltransfera se 5	rc_AA859911 UI-R-E0-cg-b-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-b-05-0-Ul /clone_end=3 /gb=AA859911 /gi=2949431 /ug=Rn.24851 /len=447	"TYPE II "CMP-N- acetylneuramina te-beta- galactosamide- alpha-2-3- sialyltransferase (EC 2.4.99.-) MEMBRANE- PROTEIN BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."

Table 2.

AA8599 11	5020 Q11205	X96667 5021	JC5251 5022	87.89 se 5	Sialyltransfera se 5	rc_AA859911 UI-R-E0-cg-b-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-b-05-0-Ul /clone_end=3 /gb=AA859911 /gi=2949431 /ug=Rn.24851 /len=447	"TYPE II "CMP-N- acetyl/neuramini- te-beta- galactosamide- alpha-2,3- sialyltransferase (EC 2.4.99.-) MEMBRANE- PROTEIN BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."
AA8599 19	No Rat Protein Found.	AV699259 5025	No Human Protein Found.	93.81	Homo sapiens clone 015h12 My015 protein	rc_AA859919 UI-R-E0-cg-c-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-c-01-0-Ul /clone_end=3 /gb=AA859919 /gi=2949439 /ug=Rn.2696 /len=474	
AA8599 19	No Rat Protein Found.	AV699259 5027	No Human Protein Found.	93.81	Homo sapiens clone 015h12 My015 protein	rc_AA859919 UI-R-E0-cg-c-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-c-01-0-Ul /clone_end=3 /gb=AA859919 /gi=2949439 /ug=Rn.2696 /len=474	
AA8599 21	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	93.81	28S ribosomal RNA	rc_AA859921 UI-R-E0-cg-c-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-c-03-0-Ul /clone_end=3 /gb=AA859921 /gi=2949441 /ug=Rn.14551 /len=314	
AA8599 31	No Rat Protein Found.	BC001080 5030	No Human Protein Found.	5031	87.75 Mus musculus 10, 11 days embryo cDNA, RIKEN	rc_AA859931 UI-R-E0-cg-d-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-d-01-0-Ul /clone_end=3 /gb=AA859931 /gi=2949451 /ug=Rn.822 /len=506	
AA8599 31	No Rat Protein Found.	BC001080 5033	No Human Protein Found.	5034	87.75 Mus musculus 10, 11 days embryo cDNA, RIKEN	rc_AA859931 UI-R-E0-cg-d-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-d-01-0-Ul /clone_end=3 /gb=AA859931 /gi=2949451 /ug=Rn.822 /len=506	

Table 2.

AA8599 33	5035	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA859933 UI-R-E0-cg-d-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-cg-d-03-0-Ul /clone_end=3 /gb=AA859933 /gi=2949453 /ug=Rn.824 /len=517
AA8599 33	5036	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA859933 UI-R-E0-cg-d-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-cg-d-03-0-Ul /clone_end=3 /gb=AA859933 /gi=2949453 /ug=Rn.824 /len=517
AA8599 33	5037	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA859933 UI-R-E0-cg-d-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-cg-d-03-0-Ul /clone_end=3 /gb=AA859933 /gi=2949453 /ug=Rn.824 /len=517
AA8599 33	5038	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA859933 UI-R-E0-cg-d-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-cg-d-03-0-Ul /clone_end=3 /gb=AA859933 /gi=2949453 /ug=Rn.824 /len=517
AA8599 37	5039	No Rat Protein Found.	AI581056	5040	O75473	5041	91.27	EST (not recognized)
AA8599 37	5042	No Rat Protein Found.	AI581056	5043	O75473	5044	91.27	EST (not recognized)
AA8599 51	5045	No Rat Protein Found.	R40468	5046	No Human Protein Found.		91.72	EST (not recognized)
AA8599 52	5047	No Rat Protein Found.		BC007384	5048	XP_031 299	85.26	Homo sapiens similar to early development regulator 2
AA8599 54	5050	No Rat Protein Found.	AK024969	5051	AAF289	5052	95.05	Homo sapiens HSPC292 mRNA, partial cds
								rc_AA859954 UI-R-E0-ca-f-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ca-f-01-0-Ul /clone_end=3 /gb=AA859954 /gi=2949472 /ug=Rn.22632 /len=443
								rc_AA859954 UI-R-E0-ca-f-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ca-f-01-0-Ul /clone_end=3 /gb=AA859954 /gi=2949474 /ug=Rn.840 /len=519

Table 2.

AA8599 66	5053	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Strong homology with 18S rRNA (W01270)	rc_AA859966 UI-R-E0-ca-g-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ca-g-03-0-Ul /clone_end=3 /gb=AA859966 /gi=2949486 /ug=Rn.861 /len=392	
AA8599 82	5054	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)		rc_AA859982 UI-R-E0-ca-h-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ca-h-10-0-Ul /clone_end=3 /gb=AA859982 /gi=2949502 /ug=Rn.18656 /len=532	
AA8599 96	5055	No Rat Protein Found.		AB046773	5056	No Human Protein Found.	rc_AA859996 UI-R-E0-ca-b-04-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ca-b-04-0-Ul /clone_end=3 /gb=AA859996 /gi=2949516 /ug=Rn.22634 /len=553	
AA8600 10	5057	AAH11 490		NM_0007 42	5059	Q15822	5060	BC011490 rc_AA860010 UI-R-E0-ca-c-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ca-c-07-0-Ul /clone_end=3 /gb=AA860010 /gi=2949530 /ug=Rn.872 /len=400
AA8600 15				F34867	5062	XP_002 616	95.2	ESTs, Weakly similar to cholinergic receptor, nicotinic, alpha polypeptide 2 (neuronal)
AA8600 17	5063	CAA76 850		BCC01969	5065	AAC395 75	T50607	rc_AA860015 UI-R-E0-ca-c-12-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ca-c-12-0-Ul /clone_end=3 /gb=AA860015 /gi=2949535 /ug=Rn.857 /len=590
AA8600 44	5067	AAH03 203					Y17793	rc_AA860017 UI-R-E0-ca-d-02-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ca-d-02-0-Ul /clone_end=3 /gb=AA860017 /gi=2949537 /ug=Rn.876 /len=528
								rc_AA860044 UI-R-E0-bz-f-12-0-Ul.s1 nonvegicus cDNA, 3 end /clone=Ul-R-E0-bz-f-12-0-Ul /clone_end=3 /gb=AA860044 /gi=2949564 /ug=Rn.893 /len=442

Table 2.

AA8600 49	5071	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male colon cDNA, RIKEN		rc_AA860049 UI-R-E0-bz-g-05-0-Ui.s2 Rattus norvegicus cDNA, 3 end /clone=Ui-R- E0-bz-g-05-0-Ui /clone_end=3 /gb=AA860049 /gi=2949569 /ug=Rn.896 /len=375
AA8662 40	5072 36	AAA410 36	5073 NM_0007 69	5074 P33261	5075 72	Cytochrome P450 mRNA	NM_01715 8 rc_AA866240 UI-R-A0-bz-g-05-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- A0-bz-g-05-0-Ui /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 40	5076 36	AAA410 36	5077 NM_0007 69	5078 P33261	5079 72	Cytochrome P450 mRNA	NM_01715 8 rc_AA866240 UI-R-A0-bz-g-05-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- A0-bz-g-05-0-Ui /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 40	5080 36	AAA410 36	5081 NM_0007 69	5082 P33261	5083 72	Cytochrome P450 mRNA	NM_01715 8 rc_AA866240 UI-R-A0-bz-g-05-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- A0-bz-g-05-0-Ui /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 40	5084 36	AAA410 36	5085 NM_0007 69	5086 P33261	5087 72	Cytochrome P450 mRNA	NM_01715 8 rc_AA866240 UI-R-A0-bz-g-05-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- A0-bz-g-05-0-Ui /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 57	5088 733	AHH05 5089	No human homolog found.	No Human Protein Found.	Rat EST (mouse hypothetical protein)		rc_AA866257 UI-R-A0-bd-g-09-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- A0-bd-g-09-0-Ui /clone_end=3 /gb=AA866257 /gi=2961718 /ug=Rn.3025 /len=420
AA8662 76	5090 665	NP_058 5091	AK027693	5092 Q96SS97	5093 94.64	myeloid- associated marker (weakly similar)	NM_01696 9 rc_AA866276 UI-R-A0-bg-b-06-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- A0-bg-b-06-0-Ui /clone_end=3 /gb=AA866276 /gi=2961737 /ug=Rn.3035 /len=476
AA8662 99	5094 No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA866299 UI-R-A0-ac-f-12-0-Ui.s3 Rattus nonnevigicus cDNA, 3 end /clone=Ui-R-A0-ac-f- 12-0-Ui /clone_end=3 /gb=AA866299 /gi=2961760 /ug=Rn.3049 /len=395
AA8662 99	5095 No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA866299 UI-R-A0-ac-f-12-0-Ui.s3 Rattus nonnevigicus cDNA, 3 end /clone=Ui-R-A0-ac-f- 12-0-Ui /clone_end=3 /gb=AA866299 /gi=2961760 /ug=Rn.3049 /len=395

Table 2.

AA8663 5096	No Rat Protein Found.	BGG291391	5097	No Human Protein Found.		EST (not recognized)		rc_AA866306 UI-R-A0-ac-g-09-0-Ul.s3 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ac-g-09-0-Ul /clone_end=3 /gb=AA866306 /gi=2961767 /ug=Rn.3054 /len=251
AA8663 5098	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA866358 UI-R-A0-bm-b-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bm-b-07-0-Ul /clone_end=3 /gb=AA866358 /gi=2961819 /ug=Rn.3077 /len=239
AA8663 5099	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA866358 UI-R-A0-bm-b-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bm-b-07-0-Ul /clone_end=3 /gb=AA866358 /gi=2961819 /ug=Rn.3077 /len=239
AA8663 5100	BAB221 40	AW40824 5101	5102	No Human Protein Found.		96.15 RIKEN full-length cDNA (mouse) with myb transforming protein domain	AK002491	rc_AA866371 UI-R-A0-bm-d-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bm-d-03-0-Ul /clone_end=3 /gb=AA866371 /gi=2961832 /ug=Rn.7220 /len=381
AA8663 5103	BAB221 40	AW40824 5104	5105	No Human Protein Found.		96.15 RIKEN full-length cDNA (mouse) with myb transforming protein domain	AK002491	rc_AA866371 UI-R-A0-bm-d-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bm-d-03-0-Ul /clone_end=3 /gb=AA866371 /gi=2961832 /ug=Rn.7220 /len=381
AA8664 5106	No Rat Protein Found.	XM_03155 3	5107	XP_031 553	5108	84 Homo sapiens KIAA0332 protein (KIAA0332)	AK002491	rc_AA866409 UI-R-E0-ch-a-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ch-a-03-0-Ul /clone_end=3 /gb=AA866409 /gi=2961870 /ug=Rn.21410 /len=467
AA8664 5109	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST not recognized		rc_AA866419 UI-R-E0-ch-c-04-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ch-c-04-0-Ul /clone_end=3 /gb=AA866419 /gi=2961880 /ug=Rn.3099 /len=520
AA8664 5110	No Rat Protein Found.	AK057056	5111	No Human Protein Found.		91.07 EST(not recognised)		rc_AA866439 UI-R-E0-ch-g-02-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ch-g-02-0-Ul /clone_end=3 /gb=AA866439 /gi=2961900 /ug=Rn.3109 /len=248

Table 2.

AA8664_39	5112	No Rat Protein Found.	AK057056	5113	No Human Protein Found.		91.07	EST(not recognised)	rc_AA866439 UI-R-E0-chg-02-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-chg-02-0-Ui /clone_end=3 /gb=AA866439 /gi=2961900 /ug=Rn.3109 /len=248	
AA8664_44	5114	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA866444 UI-R-E0-chg-h-01-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-chg-h-01-0-Ui /clone_end=3 /gb=AA866444 /gi=2961905 /ug=Rn.3112 /len=276	
AA8664_54	5115	No Rat Protein Found.	AK000261	5116	No Human Protein Found.		5117	93.14 Rat alpha-2(I) Promoter	X66209 rc_AA866454 UI-R-E0-br-e-07-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-br-e-07-0-Ui /clone_end=3 /gb=AA866454 /gi=2961915 /ug=Rn.3115 /len=516	
AA8664_54	5118	No Rat Protein Found.	AK000261	5119	No Human Protein Found.		5120	93.14 Rat alpha-2(I) Promoter	X66209 rc_AA866454 UI-R-E0-br-e-07-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-br-e-07-0-Ui /clone_end=3 /gb=AA866454 /gi=2961915 /ug=Rn.3115 /len=516	
AA8664_71	5121	AAH08_539	5122	AK022744	5123	BAB142_19	5124	Unnamed protein product	rc_AA866471 UI-R-E0-br-g-08-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-br-g-08-0-Ui /clone_end=3 /gb=AA866471 /gi=2961932 /ug=Rn.3120 /len=537	
AA8747_91	5125	NP_035_847	5126	AL390184	5127	XP_034_356	94.44	hypothetical gene supported by AK027615	NM_01171_7 rc_AA874791 UI-R-E0-bw-f-06-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bw-f-06-0-Ui /clone_end=3 /gb=AA874791 /gi=2979739 /ug=Rn.3125 /len=436	
AA8747_94	5128	AAF751_30	5129	NM_0143_80	5130	P00001	5131	90.1 p75NTR-associated cell death executor; NADE	AF187065 rc_AA874794 UI-R-E0-bw-f-10-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bw-f-10-0-Ui /clone_end=3 /gb=AA874794 /gi=2979742 /ug=Rn.3126 /len=523	
AA8747_94	5132	AAF751_30	5133	NM_0143_80	5134	P00001	5135	90.1 p75NTR-associated cell death executor; NADE	AF187065 rc_AA874794 UI-R-E0-bw-f-10-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bw-f-10-0-Ui /clone_end=3 /gb=AA874794 /gi=2979742 /ug=Rn.3126 /len=523	
AA8748_02	5136	P43278	5137	NM_0053_18	5138	P07305	5139	94 histone H10 (H1 subtype	X70685 rc_AA874802 UI-R-E0-bw-g-07-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-E0-bw-g-07-0-Ui /clone_end=3 /gb=AA874802 /gi=2979750 /ug=Rn.3129 /len=536	Nuclear. Histone H1.0 (H1(0)) (Histone H1).

Table 2.

AA8748 03	5140	No Rat Protein Found.	NC_00180 7	NP_008 352	89	ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]		rc_AA874803 UI-R-E0-bw-g-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bw-g-08-0-Ul /clone_end=3 /gb=AA874803 /gi=2979751 /ug=Rn.3130 /len=524
AA8748 03	5141	No Rat Protein Found.	NC_00180 7	NP_008 352	89	ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]		rc_AA874803 UI-R-E0-bw-g-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-bw-g-08-0-Ul /clone_end=3 /gb=AA874803 /gi=2979751 /ug=Rn.3130 /len=524
AA8748 27	5142	No Rat Protein Found.	D13633	5143	Q15398 5144	ESTs, Weakly similar to Y008_HUMAN HYPOTHETIC AL PROTEIN KIAA0008 [H.sapiens]		rc_AA874827 UI-R-E0-cg-e-12-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cg-e-12-0-Ul /clone_end=3 /gb=AA874827 /gi=2979775 /ug=Rn.3137 /len=477
AA8748 73	5145	NP_084 537	A1497723	5147	No	EST (mouse hypothetical protein)		rc_AA874873 UI-R-E0-ci-d-11-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ci-d- 11-0-Ul /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 73	5148	No Rat Protein Found.	A1497723	5149	No	Mus musculus, clone MGC:7182 IMAGE:34816 73		rc_AA874873 UI-R-E0-ci-d-11-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ci-d- 11-0-Ul /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 73	5150	NP_084 537	A1497723	5152	No	EST (mouse hypothetical protein)		rc_AA874873 UI-R-E0-ci-d-11-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ci-d- 11-0-Ul /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 73	5153	No Rat Protein Found.	A1497723	5154	No	Mus musculus, clone MGC:7182 IMAGE:34816 73		rc_AA874873 UI-R-E0-ci-d-11-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-ci-d- 11-0-Ul /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568

Table 2.

AA8748 74	5155 763	AAC52 M29872	5156 5157	P11766 M29872	5158	89.3 ESTs, Highly similar to ALCOHOL DEHYDROGE NASE CLASS III [R.norvegicus]	U48971	rc_AA874874 UI-R-E0-ci-d-12-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ci-d- 12-0-Ul /clone_end=3 /gb=AA874874 /gi=2979822 /ug=Rn.3157 /len=513	
AA8748 74	5159 763	AAC52 M29872	5160 5161	P11766 M29872	5162	89.3 ESTs, Highly similar to ALCOHOL DEHYDROGE NASE CLASS III [R.norvegicus]	U48971	rc_AA874874 UI-R-E0-ci-d-12-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ci-d- 12-0-Ul /clone_end=3 /gb=AA874874 /gi=2979822 /ug=Rn.3157 /len=513	
AA8748 97	NP_077 794	5164 No human homolog found.				No Human Protein Found.	EST in rat (Mouse hypothetical protein MGC7475)	NM_02447 4 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ck-e-05-0-Ul /clone_end=3 /gb=AA874897 /gi=2979845 /ug=Rn.3167 /len=420	
AA8749 24	NP_034 875	5166 AB020499	5167 O957711	5168 O957711	88.19 Lymphocyte antigen 86 (Ly86)		NM_01074 5 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ck-h-02-0-Ul /clone_end=3 /gb=AA874924 /gi=2979872 /ug=Rn.3176 /len=525	rc_AA874924 UI-R-E0-ck-h-02-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ck-h-02-0-Ul /clone_end=3 /gb=AA874924 /gi=2979872 /ug=Rn.3176	
AA8749 26	No Rat Protein Found.	AJ006470 5170	O75778 5171		92.65 Homo sapiens mRNA; cDNA DKFZp434M1 616		rc_AA874926 UI-R-E0-ck-h-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ck-h-06-0-Ul /clone_end=3 /gb=AA874926 /gi=2979874 /ug=Rn.806 /len=477	rc_AA874926 UI-R-E0-ck-h-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ck-h-06-0-Ul /clone_end=3 /gb=AA874926 /gi=2979874 /ug=Rn.806	
AA8749 34	BAA234 30	5173 NM_0035 86	5174 NP_003 577	5175 Doc2		D50000	rc_AA874934 UI-R-E0-ci-c-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ci-c- 05-0-Ul /clone_end=3 /gb=AA874934 /gi=2979882 /ug=Rn.3179 /len=333	rc_AA874934 UI-R-E0-ci-c-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ci-c- 05-0-Ul /clone_end=3 /gb=AA874934 /gi=2979882 /ug=Rn.3179 /len=333	
AA8749 82	BAA110 34	5177 3	XM_01716 163	XP_017 163		96 scg (Karyopherin beta)	D67015	rc_AA874982 UI-R-E0-cf-c-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-c- 06-0-Ul /clone_end=3 /gb=AA874982 /gi=2979930 /ug=Rn.3195 /len=519	rc_AA874982 UI-R-E0-cf-c-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-c- 06-0-Ul /clone_end=3 /gb=AA874982 /gi=2979930 /ug=Rn.3195 /len=519

Table 2.

AA8749 93	5178	No Rat Protein Found.	XM_04114 2	XP_041 142	95	Homo sapiens ubiquitin protein ligase E3A (human papilloma virus E6-associated protein, Angelman Syndrome)	rc_AA874993 UI-R-E0-ef-d-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ef-d-06-0-Ul /clone_end=3 /gb=AA874993 /gi=2979941 /ug=Rn.22108 /len=439	
AA8749 95	5179	NP_077 792	XM_03752 9	XP_037 529	100	Hypothetical protein MGC7473 [Mus musculus]	NM_02447 rc_AA874995 UI-R-E0-ef-d-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ef-d-08-0-Ul /clone_end=3 /gb=AA874995 /gi=2979943 /ug=Rn.3197 /len=525	
AA8750 04	5181	No Rat Protein Found.	BCC06350	5182	XP_052 115	5183	92.25 Hypothetical Protein	rc_AA875004 UI-R-E0-cb-f-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f-07-0-Ul /clone_end=3 /gb=AA875004 /gi=2979952 /ug=Rn.2147 /len=402
AA8750 19	5184	BAA851 82	BCC07792	5186	P49750	5187	Nuclear protein ZAP	AB033168 rc_AA875019 UI-R-E0-cb-f-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f-08-0-Ul /clone_end=3 /gb=AA875019 /gi=2979967 /ug=Rn.3204 /len=513
AA8750 19	5188	BAA851 82	BCC07792	5190	P49750	5191	Nuclear protein ZAP	AB033168 rc_AA875019 UI-R-E0-cb-f-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f-08-0-Ul /clone_end=3 /gb=AA875019 /gi=2979967 /ug=Rn.3204 /len=513
AA8750 23	5192	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA875023 UI-R-E0-cb-f-12-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f-12-0-Ul /clone_end=3 /gb=AA875023 /gi=2979971 /ug=Rn.2954 /len=519	
AA8750 25	5193	NP_038 524	S74445	5194	P29762	5196	91.89 Mus musculus cellular retinoic acid binding protein I (Crabp1)	NM_01349 rc_AA875025 UI-R-E0-cb-f-9-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-g-08-0-Ul /clone_end=3 /gb=AA875025 /gi=2979973 /ug=Rn.3207 /len=469

Table 2.

AA8750_33	5197	Q9WVH_6	5198	NM_006329	5199	Q9UBX5	5200	94.22	Fibulin 5	rc_AA875033 UI-R-E0-ob-h-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-cb-h-10-0-Ul /clone_end=3 /gb=AA875033 /gi=2979981 /ug=Rn.1699 /len=440	Secreted. Fibulin-5 precursor (FIBL-5) (Developmental arteries and neural crestEGF like protein) (Dance) (Embryonic vascular EGF repeat-containingprotein) (EVEC).
AA8750_33	5201	Q9WVH_8	5202	NM_006329	5203	Q9UBX5	5204	94.22	Fibulin 5	rc_AA875033 UI-R-E0-ob-h-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-cb-h-10-0-Ul /clone_end=3 /gb=AA875033 /gi=2979981 /ug=Rn.1699 /len=440	Secreted. Fibulin-5 precursor (FIBL-5) (Developmental arteries and neural crestEGF like protein) (Dance) (Embryonic vascular EGF repeat-containingprotein) (EVEC).
AA8750_37	5205	S19896	5206	L40378	5207	P50453	5208	76	ESTs, Weakly similar to PLASMINOGEN ACTIVATOR INHIBITOR-2, TYPE A [R.norvegicus]	rc_AA875037 UI-R-E0-cb-a-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-cb-a-03-0-Ul /clone_end=3 /gb=AA875037 /gi=2979985 /ug=Rn.2559 /len=534	
AA8750_40	5209	AAH105_726	5210	NM_031465	5211	NP_113653	5212	64	Mus musculus, clone IMAGE:3595595	BC005726 rc_AA875040 UI-R-E0-cb-b-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-E0-cb-b-01-0-Ul /clone_end=3 /gb=AA875040 /gi=2979988 /ug=Rn.1747 /len=539	

Table 2.

AA8750 43	5213	Q63572	5214	AF479317	5215	Q15569	5216	91.45	Testis specific protein kinase 1	rc_AA875043 UI-R-E0-ob-c-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-c-01-0-Ul /clone_end=3 /gb=AA875043 /gi=2979991 /ug=Rn.7006 /len=359	Testis-specific protein kinase 1 (EC 2.7.1.-).
AA8750 50	5217	O54783	5218	ABD29885	5219	Q9Y259	5220	32	ESTs, Weakly similar to KICE RAT CHOLINE/ET HANOLAMIN E KINASE [R.norvegicus]	rc_AA875050 UI-R-E0-ob-d-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-d-05-0-Ul /clone_end=3 /gb=AA875050 /gi=2979998 /ug=Rn.3218 /len=530	
AA8750 54	5221	P28480	5222	BG198443	5223	AAH12496	5224	90.05	Tcp-1=t-complex polypeptide 1	S46763 rc_AA875054 UI-R-E0-ob-e-04-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-e-04-0-Ul /clone_end=3 /gb=AA875054 /gi=2980002 /ug=Rn.24874 /len=485	Cytoplasmic "T-complex protein 1, alpha subunit (TCP-1-alpha) (CCT-alpha)."
AA8750 59	5225	No Rat Protein Found.		R67025	5226	No Human Protein Found.		92.91	EST (not recognised)	rc_AA875059 UI-R-E0-cb-f-04-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f-04-Ul /clone_end=3 /gb=AA875059 /gi=2980007 /ug=Rn.3224 /len=490	
AA8750 69	5227	P06351	5228	XM_011165		XP_011165		97	Histone H3.3	X73683 rc_AA875069 UI-R-E0-cb-h-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-h-05-0-Ul /clone_end=3 /gb=AA875069 /gi=2980017 /ug=Rn.3342 /len=543	Histone H3.3 (H3.A) (H3.B) (H3.3Q).
AA8750 90	5229	No Rat Protein Found.		NM_017595	5230	NP_060065		5231	I-kappa-B-interacting Ras-like protein 2 (KBRAS2)	rc_AA875090 UI-R-E0-cf-g-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-g-01-0-Ul /clone_end=3 /gb=AA875090 /gi=2980038 /ug=Rn.15038 /len=481	

Table 2.

AA8750 99	5232	O08587	5233	NM_0071 72	5234	Q9UKX7	5235	85.95	nucleoporin 50 1	NM_01299 1	rc_AA875099 UI-R-E0-cf-g-11-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-g-11-0-UI /clone_end=3 /gb=AA875099 /gi=2980047 /ug=Rn.3242 /len=448	"Nuclear. Localizes to the nucleoplasmic fibrils of the nuclear pore complex. In the testis, the localization changes during germ cell differentiation ; from the nuclear surface in spermatocyte s to the"	Nucleoporin 50 kDa (Nuclear pore-associated protein 60 kDa- like).
AA8751 05	5236	No Rat Protein Found.							No Human Protein Found.	EST (not recognized)	rc_AA875105 UI-R-E0-cf-h-06-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-h- 06-0-UI /clone_end=3 /gb=AA875105 /gi=2980053 /ug=Rn.3245 /len=435		
AA8751 07	5237	No Rat Protein Found.							No Human Protein Found.	Mus musculus adult male tongue cDNA, RIKEN	rc_AA875107 UI-R-E0-cf-h-08-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-h- 08-0-UI /clone_end=3 /gb=AA875107 /gi=2980055 /ug=Rn.3263 /len=542		
AA8751 21	5238	Q62725	5239	AK055329	5240	A56336	95.41	CCAAT binding factor of CBF-C/NF γ C		rc_AA875121 UI-R-E0-bu-b-06-0-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-b-06-0-UI /clone_end=3 /gb=AA875121 /gi=2980069 /ug=Rn.1457 /len=573	Nuclear. transcription factor Y subunit gamma (NF-Y protein chain C)(Nuclear factor YC) (NF- YC) (CCAAT- binding transcription factorsubunit C) (CBF-C).		

Table 2.

AA8751 24	5241	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	<i>rc_AA875124 UI-R-E0-bu-c-06-0-Ul.s2</i> Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-c-06-0-Ul /clone_end=3 /gb=AA875124 /gi=2980072 /ug=Rn.2798 /len=119			
AA8751 27	5242	BAB262 50	5243	NM_0037 18	5244	Q14004	5245	97.14	CDC2L5 protein kinase (Rat EST; mouse hypothetical protein)	<i>rc_AA875127 UI-R-E0-bu-d-05-0-Ul.s2</i> Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-d-05-0-Ul /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579
AA8751 27	5246	BAB262 50	5247	NM_0037 18	5248	Q14004	5249	97.14	CDC2L5 protein kinase	<i>rc_AA875127 UI-R-E0-bu-d-05-0-Ul.s2</i> Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-d-05-0-Ul /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579
AA8751 27	5250	BAB262 50	5251	NM_0037 18	5252	Q14004	5253	97.14	CDC2L5 protein kinase (Rat EST; mouse hypothetical protein)	<i>rc_AA875127 UI-R-E0-bu-d-05-0-Ul.s2</i> Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-d-05-0-Ul /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579
AA8751 27	5254	BAB262 50	5255	NM_0037 18	5256	Q14004	5257	97.14	CDC2L5 protein kinase	<i>rc_AA875127 UI-R-E0-bu-d-05-0-Ul.s2</i> Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-d-05-0-Ul /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579
AA8751 35	5258	P51646	5259	AF100740	5260	Q9Y689	5261	99	R.norvegicus (Sprague Dawley) ARL5 mRNA for ARF-like protein 5	<i>rc_AA875135 UI-R-E0-bu-f-01-0-Ul.s2</i> Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-f-01-0-Ul /clone_end=3 /gb=AA875135 /gi=2980083 /ug=Rn.2803 /len=581
AA8751 47	5262	No Rat Protein Found.	D87440	5263	No Human Protein Found.			97.44	Mus musculus 10 days neonate cerebellum cDNA, RIKEN	<i>rc_AA875147 UI-R-E0-bu-h-03-0-Ul.s2</i> Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-h-03-0-Ul /clone_end=3 /gb=AA875147 /gi=2980095 /ug=Rn.766 /len=470
AA8751 48	5264	No Rat Protein Found.		No human homolog found.	No Human Protein Found.				EST (not recognized)	<i>rc_AA875148 UI-R-E0-bu-h-05-0-Ul.s2</i> Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-h-05-0-Ul /clone_end=3 /gb=AA875148 /gi=2980096 /ug=Rn.767 /len=500

Table 2.

AA8751 92	5265 NP_079 642	5266 No human homolog found.	No Human Protein Found.	Rat EST: mouse hypothetical protein from a Riken	rc_AA875192 UI-R-E0-cu-a-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cu-a-10-0-Ul /clone_end=3 /gb=AA875192 /gi=2980140 /ug=Rn.2620 /len=545
AA8751 98	5267 No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA875198 UI-R-E0-cu-c-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cu-c-07-0-Ul /clone_end=3 /gb=AA875198 /gi=2980146 /ug=Rn.2826 /len=513
AA8752 06	5268 BAA922 67	5269 NM_0530 67	5270 NP_038 466	5271 90.91 DA41	D87950 rc_AA875206 UI-R-E0-cu-e-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cu-e-07-0-Ul /clone_end=3 /gb=AA875206 /gi=2980154 /ug=Rn.2830 /len=510
AA8752 07	5272 P11517	5273 BG311786	5274 P02023	5275 93.18 Hemoglobin, beta	rc_AA875207 UI-R-E0-cu-e-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cu-e-10-0-Ul /clone_end=3 /gb=AA875207 /gi=2980155 /ug=Rn.11417 /len=445
AA8752 17	5276 No Rat Protein Found.	Bf512741 5277	No Human Protein Found.	95.22 EST (not recognized)	rc_AA875217 UI-R-E0-cu-g-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cu-g-09-0-Ul /clone_end=3 /gb=AA875217 /gi=2980165 /ug=Rn.2836 /len=405
AA8752 25	5278 P04897	5279 AK055574	5280 P04899	5281 96.38 Mus musculus, clone IMAGE:35830 47	rc_AA875225 UI-R-E0-cq-a-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cq-a-06-0-Ul /clone_end=3 /gb=AA875225 /gi=2980173 /ug=Rn.3036 /len=421
AA8752 25	P04897	5283	AK055574 5284	P04899 5285 96.38 Mus musculus, clone IMAGE:35830 47	rc_AA875225 UI-R-E0-cq-a-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-cq-a-06-0-Ul /clone_end=3 /gb=AA875225 /gi=2980173 /ug=Rn.3036 /len=421

Table 2.

AA8752 53	5286	P41276	5287	L28997	5288	P40616	5289	91.8	Mus musculus adult male tongue cDNA, RIKEN	rc_AA875253 UI-R-E0-ce-d-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-ce-d-08-0-Ul /clone_end=3 /gb=AA875253 /gi=2980201 /ug=Rn.3065 /len=323	ADP- ribosylation factor-like protein 1.
AA8752 63	5290	No Rat Protein Found.	AF015308	5291	9320196 4	5292	90.45	ESTs, Highly similar to cell cycle- regulated factor p78 [H.sapiens]	rc_AA875263 UI-R-E0-ce-a-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-ce-a-08-0-Ul /clone_end=3 /gb=AA875263 /gi=2980211 /ug=Rn.2727 /len=452		
AA8752 68	5293	No Rat Protein Found.	BG675079	5294	XP_027 422		90.1	ESTs, Highly similar to NUKM_HUMA N NADH- UBIQUINONE OXIDOREDU CTASE 20 KDA SUBUNIT PRECURSOR [H.sapiens]	rc_AA875268 UI-R-E0-ce-b-04-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-ce-b-04-0-Ul /clone_end=3 /gb=AA875268 /gi=2980216 /ug=Rn.2855 /len=449		
AA8752 69	5295	NP_114 029	5296	AF097514	5297	O00767	5298	83	Rattus norvegicus stearoyl-CoA desaturase 2 (Scd2)	NM_03184 1	rc_AA875269 UI-R-E0-ce-b-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-ce-b-05-0-Ul /clone_end=3 /gb=AA875269 /gi=2980217 /ug=Rn.2627 /len=510
AA8752 75	5299	No Rat Protein Found.	AA761673	5300	No Human Protein Found.		87.5	EST(not recognised)	rc_AA875275 UI-R-E0-ce-c-01-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-ce-c-01-0-Ul /clone_end=3 /gb=AA875275 /gi=2980223 /ug=Rn.24936 /len=535		
AA8752 78	5301	No Rat Protein Found.	AF265210	5302	XP_011 449	5303	87	Homo sapiens Fanconi anemia, complementati on group E (FANCE)	rc_AA875278 UI-R-E0-ce-c-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- E0-ce-c-09-0-Ul /clone_end=3 /gb=AA875278 /gi=2980226 /ug=Rn.2861 /len=530		

Table 2.

AA8752 78	5304	No Rat Protein Found.	AF265210	5305 449	XP_011	5306	87	Homo sapiens Fanconi anemia, complementati- on group E (FANCE)		rc_AA875278 UI-R-E0-oe-c-09-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ce-c-09-0-Ul /clone_end=3 /gb=AA875278 /gi=2980226 /ug=Rn.2861 /len=530
AA8753 27	5307	AAD34 858	D26068	5309	Q15056	5310	95.33	Mus musculus LM-kinase1 (limk1)	AF139987 rc_AA875327 UI-R-E0-cn-h-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cn-h-05-0-Ul /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377	
AA8753 27	5311	AAD34 858	D26068	5312	Q15056	5313	95.33	Mus musculus LM-kinase1 (limk1)	AF139987 rc_AA875327 UI-R-E0-on-h-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cn-h-05-0-Ul /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377	
AA8753 27	5315	AAD34 858	D26068	5316	Q15056	5317	95.33	Mus musculus LM-kinase1 (limk1)	AF139987 rc_AA875327 UI-R-E0-cn-h-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cn-h-05-0-Ul /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377	
AA8753 27	5319	AAD34 858	D26068	5320	Q15056	5321	95.33	Mus musculus LM-kinase1 (limk1)	AF139987 rc_AA875327 UI-R-E0-cn-h-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cn-h-05-0-Ul /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377	
AA8753 48	5323	No Rat Protein Found.			No human homolog found.			EST(not recognised)	rc_AA875348 UI-R-E0-co-b-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-co-b-06-0-Ul /clone_end=3 /gb=AA875348 /gi=2980296 /ug=Rn.2887 /len=455	
AA8753 62	5324	No Rat Protein Found.			AA908851	5325	No	EST (not recognized)	rc_AA875362 UI-R-E0-co-c-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-co-c-10-0-Ul /clone_end=3 /gb=AA875362 /gi=2980310 /ug=Rn.2894 /len=402	
AA8754 25	5326	No Rat Protein Found.			No human homolog found.			Human DNA sequence from clone RP5-1169J3	rc_AA875425 UI-R-E0-cs-f-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cs-f- 07-0-Ul /clone_end=3 /gb=AA875425 /gi=2980373 /ug=Rn.2915 /len=521	

Table 2.

AA8754 28	5327	No Rat Protein Found.	NM_0221 71	5328	No Human Protein Found.		84.21	EST (not recognized)		rc_AA875428 UI-R-E0-cs-f-12-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=Ui-R-E0-cs-f- 12-0-Ui /clone_end=3 /gb=AA875428 /gi=2980376 /ug=Rn.2916 /len=477
AA8754 44	5329	Q62950	5330	XM_04808 0	XP_048 080			Dihydropyrimi- dase-like 2 [collapsin response mediator protein 1].		rc_AA875444 UI-R-E0-cp-a-08-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- E0-cp-a-08-0-Ui /clone_end=3 /gb=AA875444 /gi=2980392 /ug=Rn.2889 /len=383
AA8754 44	5331	Q62950	5332	XM_04808 0	XP_048 080			Dihydropyrimi- dase-like 2 [collapsin response mediator protein 1].		rc_AA875444 UI-R-E0-cp-a-08-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- E0-cp-a-08-0-Ui /clone_end=3 /gb=AA875444 /gi=2980392 /ug=Rn.2889 /len=383
AA8754 95	5333	No Rat Protein Found.	BI495246	5334	No Human Protein Found.		97.06	EST (not recognized)		rc_AA875495 UI-R-E0-ct-b-04-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=Ui-R-E0-ct-b- 04-0-Ui /clone_end=3 /gb=AA875495 /gi=2980443 /ug=Rn.1876 /len=495
AA8754 95	5335	No Rat Protein Found.	BI495246	5336	No Human Protein Found.		97.06	EST (not recognized)		rc_AA875495 UI-R-E0-ct-b-04-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=Ui-R-E0-ct-b- 04-0-Ui /clone_end=3 /gb=AA875495 /gi=2980443 /ug=Rn.1876 /len=495
AA8754 96	5337	No Rat Protein Found.	AA521144	5338	No Human Protein Found.		89.42	Mus musculus 10 days neonate cerebellum cDNA, RIKEN		rc_AA875496 UI-R-E0-ct-b-05-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=Ui-R-E0-ct-b- 05-0-Ui /clone_end=3 /gb=AA875496 /gi=2980444 /ug=Rn.2936 /len=456
AA8755 00	5339	No Rat Protein Found.	XM_04712 3	5340	XP_047 123		5341	Homo sapiens KIAA1460 protein		rc_AA875500 UI-R-E0-ct-b-11-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=Ui-R-E0-ct-b- 11-0-Ui /clone_end=3 /gb=AA875500 /gi=2980448 /ug=Rn.2857 /len=459
AA8755 06	5342	No Rat Protein Found.			No human homolog found.			M.musculus gMCK2alphaC pseudogene		rc_AA875506 UI-R-E0-ct-c-05-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=Ui-R-E0-ct-c- 05-0-Ui /clone_end=3 /gb=AA875506 /gi=2980454 /ug=Rn.22771 /len=513

Table 2.

AA8755 11	5343	No Rat Protein Found.	BFF980184	5344	No Human Protein Found.			93.27	EST(not recognised)	rc_AA875511 UI-R-E0-ct-c-10-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-c- 10-0-Ui /clone_end=3 /gb=AA875511 /gi=2980459 /ug=Rn.2940 /len=376	
AA8755 52	5345	No Rat Protein Found.	No human homolog found.		No Human Protein Found.				Mus musculus, clone MGC:7764 IMAGE:34989 02, mRNA, complete cds	rc_AA875552 UI-R-E0-cv-h-12-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cv-h-12-0-Ui /clone_end=3 /gb=AA875552 /gi=2980500 /ug=Rn.2955 /len=502	
AA8755 63	5346	NP_033 063	5347	B1826212	5348	XP_054 015		89.91	Mus musculus reticulocalbin (Rcn)	NM_00903 7 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cm-b-06-0-Ui /clone_end=3 /gb=AA875563 /gi=2980511 /ug=Rn.3275 /len=472	
AA8755 98					U53088	5350	Q13617	5351	96.72	Mus musculus adult male testis cDNA, RIKEN	rc_AA875598 UI-R-E0-cv-b-08-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cv-b-08-0-Ui /clone_end=3 /gb=AA875598 /gi=2980546 /ug=Rn.2970 /len=409
AA8756 15	5352	No Rat Protein Found.		U09215	5353	Q06265	5354	86.56	Mus musculus 10 days embryo cDNA, RIKEN	rc_AA875615 UI-R-E0-cv-d-07-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cv-d-07-0-Ui /clone_end=3 /gb=AA875615 /gi=2980563 /ug=Rn.6562 /len=504	
AA8756 30	5355	No Rat Protein Found.	No human homolog found.		No Human Protein Found.				Mus musculus, clone IMAGE:37097 46,	rc_AA875630 UI-R-E0-ct-e-12-0-Ui.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-e- 12-0-Ui /clone_end=3 /gb=AA875630 /gi=2980578 /ug=Rn.2981 /len=396	
AA8756 59	5356	NP_062 001	5357	NM_0327 27	5358	Q16352	5359	71	Internexin, alpha (Inexa), 8	NM_01912 07-0-Ui /clone_end=3 /gb=AA875639 /gi=2980607 /ug=Rn.10966 /len=424	
AA8910 37	5360	R5RT3L	5361	U655581	5362	Q92901	5363	91.3	ESTs, Moderately similar to 60S RIBOSOMAL PROTEIN L3 [R.norvegicus]	rc_AA891037 EST194840 Rattus norvegicus cDNA, 3 end /clone=RHEAO17 /clone_end=3 /gb=AA891037 /gi=3017916 /ug=Rn.16548 /len=401	

Table 2.

AA8910 49	5364 200	NP_035 94	5365 NM_0123	5366 Q9UHV9	5367 Prefoldin 2 (Pfdn2)	91.46 NM_01107 0	rc_AA891049 EST194852 Rattus norvegicus cDNA, 3 end /clone=RHEAO35 /clone_end=3 /gb=AA891049 (gi=3017928 /ug=Rn.3423 /len=455
AA8910 49	5368 200	NP_035 94	5369 NM_0123	5370 Q9UHV9	5371 Prefoldin 2 (Pfdn2)	91.46 NM_01107 0	rc_AA891049 EST194852 Rattus norvegicus cDNA, 3 end /clone=RHEAO35 /clone_end=3 /gb=AA891049 (gi=3017928 /ug=Rn.3423 /len=455
AA8910 54	No Rat Protein Found.	AW96954 1	AW96954 1	5373 P11230	5374 Mouse 4.5S RNA gene	93.91 NM_00927 4	rc_AA891054 EST194857 Rattus norvegicus cDNA, 3 end /clone=RHEAO44 /clone_end=3 /gb=AA891054 (gi=3017933 /ug=Rn.4287 /len=458
AA8910 69	NP_033 300	5376 XM_00484 2	XP_004 842		80 serine/arginine rich protein specific kinase 2		rc_AA891069 EST194872 Rattus norvegicus cDNA, 3 end /clone=RHEAO61 /clone_end=3 /gb=AA891069 (gi=3017948 /ug=Rn.19443 /len=397
AA8911 07	AAK292 79	5378 AA287829	5379 NP_061	5380 967	90.41 Diphosphoino sitol polyphosphate phosphotydoi ase type II	AF253473	rc_AA891107 EST194910 Rattus norvegicus cDNA, 3 end /clone=RHEAP20 /clone_end=3 /gb=AA891107 (gi=3017986 /ug=Rn.11627 /len=348
AA8911 32	Q62698 5381	5382 AF035812	5383 O43237	5384 93.97	LIC-2 dynein light intermediate chain 53/55	NM_03102 6	rc_AA891132 EST194935 Rattus norvegicus cDNA, 3 end /clone=RHEAP54 /clone_end=3 /gb=AA891132 (gi=3018011 /ug=Rn.11100 /len=436
AA8911 61	No Rat Protein Found.	AK001865	5386 No Human Protein Found.		88.24 EST (not recognized)		rc_AA891161 EST194964 Rattus norvegicus cDNA, 3 end /clone=RHEAP94 /clone_end=3 /gb=AA891161 (gi=3018040 /ug=Rn.7257 /len=448
AA8911 61	No Rat Protein Found.	AK001865	5388 No Human Protein Found.		88.24 EST (not recognized)		rc_AA891161 EST194964 Rattus norvegicus cDNA, 3 end /clone=RHEAP94 /clone_end=3 /gb=AA891161 (gi=3018040 /ug=Rn.7257 /len=448

Table 2.

AA8911 71	5389	AAH02 097	5390	BG723290	5391	O95298	5392	87.27	Mus musculus, Similar to NADH dehydrogenase (ubiquinone) 1	BC002097	rc_AA891171 EST194974 Rattus norvegicus cDNA, 3' end /clone=RHEAQ10 /clone_end=3 /gb=AA891171 /gi=3018050 /ug=Rn.3009 /len=592
AA8912 20	5393	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891220 EST195023 Rattus norvegicus cDNA, 3' end /clone=RHEAQ68 /clone_end=3 /gb=AA891220 /gi=3018099 /ug=Rn.7264 /len=635	
AA8912 21	5394	NP_080 580	5395	AK001447	5396	XP_051 185	5397	96.49	Hypothetical protein		rc_AA891221 EST195024 Rattus norvegicus cDNA, 3' end /clone=RHEAQ70 /clone_end=3 /gb=AA891221 /gi=3018100 /ug=Rn.1978 /len=627
AA8912 86	5398	AAD43 039	5399	AJ001050	5400	Q16881	5401	82	NADPH- dependent thioredoxin reductase	AF108213	rc_AA891286 EST195089 Rattus norvegicus cDNA, 3' end /clone=RHEAR95 /clone_end=3 /gb=AA891286 /gi=3018165 /ug=Rn.9474 /len=436
AA8913 08	5402	NP_032 403	5403	AL117666	5404	BC0112 76	5405	96.8	Integral membrane glycoprotein	NM_00837	rc_AA891308 EST195111 Rattus norvegicus cDNA, 3' end /clone=RHEAS28 /clone_end=3 /gb=AA891308 /gi=3018187 /ug=Rn.16305 /len=465
AA8913 14	5406	No Rat Protein Found.	AF176330	5407	P57723	5408			alphaCP-4 (PCBP4)		rc_AA891314 EST195117 Rattus norvegicus cDNA, 3' end /clone=RHEAS38 /clone_end=3 /gb=AA891314 /gi=3018193 /ug=Rn.2683 /len=442
AA8913 22	5409	AAH02 169									rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8913 22	5413	No Rat Protein Found.	X06815	5411	Q9UE46	5412	94.23	Rat EST (mouse hypothetical protein)		X17453	rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438

Table 2.

AA8913 22	5416 169	AAH02	5417	X06815	5418	Q9UE46	5419	94.23	Rat EST (mouse hypothetical protein)	rc_AA891322 EST195125 Rattus norvegicus cDNA, 3 end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8913 22	No Rat Protein Found.		X06815	5421	Q9UE46	5422	94.23	M_musculus DNA for U1- RNA- associated 70 kDa protein (H).	X17453	rc_AA891322 EST195125 Rattus norvegicus cDNA, 3 end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8914 23	BAB265 96							Hypothetical protein FLJ12118		rc_AA891423 EST195226 Rattus norvegicus cDNA, 3 end /clone=RHEAT94 /clone_end=3 /gb=AA891423 /gi=3018302 /ug=Rn.6868 /len=484
AA8914 45	NP_075 236	5424	BCC07220	5425	AAH072 20	5426		K+ transport defect 3 (Skd3),	NM_02294 7	rc_AA891445 EST195248 Rattus norvegicus cDNA, 3 end /clone=RHEAU35 /clone_end=3 /gb=AA891445 /gi=3018324 /ug=Rn.2911 /len=481
A14008 47	CAC19 332	5432	No human homolog found.					EST weakly similar to Mus musculus mRNA for immunoglobuli n-like cell surface receptor FDFACT, activating counterpart	AA891475	rc_AA891475 EST195278 Rattus norvegicus cDNA, 3 end /clone=RHEAU83 /clone_end=3 /gb=AA891475 /gi=3018354 /ug=Rn.3456 /len=506
AA8914 99	No Rat Protein Found.									rc_AA891499 EST195302 Rattus norvegicus cDNA, 3 end /clone=RHEAZ20 /clone_end=3 /gb=AA891499 /gi=3018378 /ug=Rn.8534 /len=460
AA8915 21	No Rat Protein Found.									rc_AA891521 EST195324 Rattus norvegicus cDNA, 3 end /clone=RHEAZ48 /clone_end=3 /gb=AA891521 /gi=3018400 /ug=Rn.7299 /len=470

Table 2.

AA8915_21	5438	No Rat Protein Found.	AY027526	5439	No Human Protein Found.	5440	83.72	EST (not recognized)		rc_AA891521 EST195324 Rattus norvegicus cDNA, 3 end /clone=RHEAZ48 /clone_end=3 /gb=AA891521 /gi=3018400 /ug=Rn.7299 /len=470
AA8915_37	5441	BAB2388_85	5442	U79274	5443	XP_007019	5444	89.72	Rat EST (mouse and human hypothetical protein)	rc_AA891537 EST195340 Rattus norvegicus cDNA, 3 end /clone=RHEAZ66 /clone_end=3 /gb=AA891537 /gi=3018416 /ug=Rn.7302 /len=549
AA8915_42	5445	AAC64141	5446	AK023253	5447	O75953	5448	96.23	Mus musculus heat shock protein hsp40-3 gene	AF092536 rc_AA891542 EST195345 Rattus norvegicus cDNA, 3 end /clone=RHEAZ72 /clone_end=3 /gb=AA891542 /gi=3018421 /ug=Rn.4189 /len=598
AA8915_53	5449	NP_061219	5450	BE122841	5451	P29034	5452	96.36	ESTs, Highly similar to IF37_9 MOUSE EUKARYOTIC TRANSLATION INITIATION FACTOR 3 SUBUNIT 7 [M.musculus]	NM_01874 rc_AA891553 EST195356 Rattus norvegicus cDNA, 3 end /clone=RHEAZ86 /clone_end=3 /gb=AA891553 /gi=3018432 /ug=Rn.3463 /len=614
AA8915_53	5453	NP_061219	5454	BE122841	5455	P29034	5456	96.36	ESTs, Highly similar to IF37_9 MOUSE EUKARYOTIC TRANSLATION INITIATION FACTOR 3 SUBUNIT 7 [M.musculus]	NM_01874 rc_AA891553 EST195356 Rattus norvegicus cDNA, 3 end /clone=RHEAZ86 /clone_end=3 /gb=AA891553 /gi=3018432 /ug=Rn.3463 /len=614
AA8915_78	5457	No Rat Protein Found.							EST(not recognised)	rc_AA891578 EST195381 Rattus norvegicus cDNA, 3 end /clone=RKIAE19 /clone_end=3 /gb=AA891578 /gi=3018457 /ug=Rn.19937 /len=410

Table 2.

AA8915 95	5458	No Rat Protein Found.	XM_03837 7	5459 377	XP_038 377	5460	Rho-associated, coiled-coil containing protein kinase 2	rc_AA891595 EST195398 Rattus norvegicus cDNA, 3 end /clone=RKIAE40 /clone_end=3 /gb=AA891595 /gi=3018474 /ug=Rn.22699 /len=471
AA8915 95	5461	NP_112 360	5462 7	XM_03837 5463 377	XP_038 377	5464 59	Rho-associated, coiled-coil containing protein kinase 2	NM_03109 8
AA8916 31	5465	No Rat Protein Found.	AB032989 5466	No Human Protein Found.		89.22	EST (not recognized)	rc_AA891631 EST195434 Rattus norvegicus cDNA, 3 end /clone=RKIAE84 /clone_end=3 /gb=AA891631 /gi=3018510 /ug=Rn.14698 /len=327
AA8916 31	5467	No Rat Protein Found.	AB032989 5468	No Human Protein Found.		89.22	EST (not recognized)	rc_AA891631 EST195434 Rattus norvegicus cDNA, 3 end /clone=RKIAE84 /clone_end=3 /gb=AA891631 /gi=3018510 /ug=Rn.14698 /len=327
AA8916 34	5469	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA891634 EST195437 Rattus norvegicus cDNA, 3 end /clone=RKIAE87 /clone_end=3 /gb=AA891634 /gi=3018513 /ug=Rn.14700 /len=384	
AA8916 51	5470	No Rat Protein Found.	NM_00050 03	5471	O14561 5472	95.09	EST (not recognized)	rc_AA891651 EST195454 Rattus norvegicus cDNA, 3 end /clone=RKIAF13 /clone_end=3 /gb=AA891651 /gi=3018530 /ug=Rn.1318 /len=499
AA8916 64	5473	NP_032 621	5474 Z93096	5475 11	CAB075 11	83	manic fringe homolog (Drosophila) (Mfng),	NM_00859 5
AA8916 66	5477	Q9ES7 3	AK074092 5478	5479	Q9Y5V3 5480	93.09	Similar to EAP30 subunit of ELL complex	BC003938 rc_AA891666 EST195469 Rattus norvegicus cDNA, 3 end /clone=RKIAF29 /clone_end=3 /gb=AA891666 /gi=3018545 /ug=Rn.8501 /len=381

Table 2.

AA8916 66	5481 3	Q9ES7	5482	AK074092	5483	Q9Y5V3	5484	93.09	Similar to EAP30 subunit of ELL complex	BC003938	rc_AA891666 EST195469 Rattus norvegicus cDNA, 3 end /clone=RKIAF29 /clone_end=3 /gb=AA891666 /gi=3018545 /ug=Rn.8501 /len=381	Cytoplasmic. Expression shifts from the cytoplasm to the plasma membrane upon stimulation with NGF.	Melanoma- associated antigen D1 (MAGE-D1 (Neurotrophine ceptor- interacting MAGE homolog) (Sertoli cell necdinrelated gene-1) (SNERG-1).
AA8916 77	5485	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognized)			rc_AA891677 EST195480 Rattus norvegicus cDNA, 3 end /clone=RKIAF42 /clone_end=3 /gb=AA891677 /gi=3018556 /ug=Rn.22242 /len=482			
AA8916 89	5486	No Rat Protein Found.	BM71493 8	5487 AAF289 40	5488 HSPC262	100				rc_AA891689 EST195492 Rattus norvegicus cDNA, 3 end /clone=RKIAF57 /clone_end=3 /gb=AA891689 /gi=3018568 /ug=Rn.14704 /len=421			
AA8916 94	5489	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognised)			rc_AA891694 EST195497 Rattus norvegicus cDNA, 3 end /clone=RKIAF62 /clone_end=3 /gb=AA891694 /gi=3018573 /ug=Rn.3960 /len=493			
AA8917 00	5490	No Rat Protein Found.	U19252	5491 P48553	5492	93.04	EST (moderately similar to human transmembran e protein)			rc_AA891700 EST195503 Rattus norvegicus cDNA, 3 end /clone=RKIAF69 /clone_end=3 /gb=AA891700 /gi=3018579 /ug=Rn.14706 /len=470			
AA8917 00	5493	No Rat Protein Found.	U19252	5494 P48553	5495	93.04	EST (moderately similar to human transmembran e protein)			rc_AA891700 EST195503 Rattus norvegicus cDNA, 3 end /clone=RKIAF69 /clone_end=3 /gb=AA891700 /gi=3018579 /ug=Rn.14706 /len=470			
AA8917 24	5496	No Rat Protein Found.		XM_04686 3	5497 XP_046 863	5498	89	KIAA0699 protein		rc_AA891724 EST195527 Rattus norvegicus cDNA, 3 end /clone=RKIAG01 /clone_end=3 /gb=AA891724 /gi=3018603 /ug=Rn.17091 /len=523			

Table 2.

AA8917 25	5499 No Rat Protein Found.	BC014953 5500	No Human Protein Found.	5501 88.08 Mus musculus 13 days embryo head cDNA, RIKEN	rc_AA891725 EST195528 Rattus norvegicus cDNA, 3 end /clone=RKIAG02 /clone_end=3 /gb=AA891725 /gi=3018604 /ug=Rn.22702 /len=625
AA8917 27	5502 No Rat Protein Found.	BC006007 5503	XP_042 640	5504 95.11 EST (hypothetical protein)	rc_AA891727 EST195530 Rattus norvegicus cDNA, 3 end /clone=RKIAG04 /clone_end=3 /gb=AA891727 /gi=3018606 /ug=Rn.3418 /len=418
AA8917 33	5505 No Rat Protein Found.	AF009424 5506	O15165	5507 89.44 EST(not recognised)	rc_AA891733 EST195536 Rattus norvegicus cDNA, 3 end /clone=RKIAG10 /clone_end=3 /gb=AA891733 /gi=3018612 /ug=Rn.8288 /len=664
AA8917 34	5508 No Rat Protein Found.	AK001539 5509	No Human Protein Found.	89.52 EST(not recognised)	rc_AA891734 EST195537 Rattus norvegicus cDNA, 3 end /clone=RKIAG13 /clone_end=3 /gb=AA891734 /gi=3018613 /ug=Rn.3481 /len=616
AA8917 35	5510 No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA891735 EST195538 Rattus norvegicus cDNA, 3 end /clone=RKIAG14 /clone_end=3 /gb=AA891735 /gi=3018614 /ug=Rn.22703 /len=516
AA8917 37	5511 No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA891737 EST195540 Rattus norvegicus cDNA, 3 end /clone=RKIAG17 /clone_end=3 /gb=AA891737 /gi=3018616 /ug=Rn.3650 /len=558
AA8917 37	5512 No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA891737 EST195540 Rattus norvegicus cDNA, 3 end /clone=RKIAG17 /clone_end=3 /gb=AA891737 /gi=3018616 /ug=Rn.3650 /len=558
AA8917 38	5513 Q07116	5514 L31573	5515 P51687	5516 86.68 Sulfite oxidase	rc_AA891738 EST195541 Rattus norvegicus cDNA, 3 end /clone=RKIAG18 /clone_end=3 /gb=AA891738 /gi=3018617 /ug=Rn.11107 /len=593
AA8917 40	NP_057 924				Mitochondrial "Sulfite oxidase, intermembrane space. mitochondrial precursor (EC 1.8.3.1)." /len=511
					rc_AA891740 EST195543 Rattus norvegicus cDNA, 3 end /clone=RKIAG20 /clone_end=3 /gb=AA891740 /gi=3018619 /ug=Rn.22704

Table 2.

AA8917 46	5519 NP_067 494	5520 AB002283	5521 XP_011 773	5522 90	Endothelial differentiation- related factor 1	NM_02151 9	rc_AA891746 EST195549 Rattus norvegicus cDNA, 3 end /clone=RKIAG28 /clone_end=3 /gb=AA891746 /gi=3018625 /ug=Rn.17092 /len=540
AA8917 51	NP_037 251	5524 XM_00824	5525 XP_008 249	5526 64	Rattus norvegicus Sodium channel, voltage-gated, type III, alpha polypeptide (Scn3a)	NM_01311 9	rc_AA891751 EST195554 Rattus norvegicus cDNA, 3 end /clone=RKIAG34 /clone_end=3 /gb=AA891751 /gi=3018630 /ug=Rn.11108 /len=569
AA8917 60	No Rat Protein Found.	XM_01518 5	XP_015 185		EST (not recognized for rat) - hypothetical protein for human		rc_AA891760 EST195563 Rattus norvegicus cDNA, 3 end /clone=RKIAG45 /clone_end=3 /gb=AA891760 /gi=3018639 /ug=Rn.2343 /len=591
AA8917 60	No Rat Protein Found.	XM_01518 5	XP_015 185		EST (not recognized for rat)		rc_AA891760 EST195563 Rattus norvegicus cDNA, 3 end /clone=RKIAG45 /clone_end=3 /gb=AA891760 /gi=3018639 /ug=Rn.2343 /len=591
AA8917 74	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus 10 day old male pancreas cDNA, RIKEN		rc_AA891774 EST195577 Rattus norvegicus cDNA, 3 end /clone=RKIAG61 /clone_end=3 /gb=AA891774 /gi=3018653 /ug=Rn.2080 /len=555
AA8917 85	AAG43 538	5531 U52144	5532 P48735	5533 92.92	Mus musculus AF212319 NADP+- specific isocitrate dehydrogenas e		rc_AA891785 EST195588 Rattus norvegicus cDNA, 3 end /clone=RKIAG74 /clone_end=3 /gb=AA891785 /gi=3018664 /ug=Rn.3490 /len=518
AA8917 85	AAG43 538	5535 U52144	5536 P48735	5537 92.92	Mus musculus AF212319 NADP+- specific isocitrate dehydrogenas e		rc_AA891785 EST195588 Rattus norvegicus cDNA, 3 end /clone=RKIAG74 /clone_end=3 /gb=AA891785 /gi=3018664 /ug=Rn.3490 /len=518
AA8917 96	No Rat Protein Found.	AL137721	5539 No Human Protein Found.	5540 93.81	Mus musculus ES cells cDNA, RIKEN		rc_AA891796 EST195599 Rattus norvegicus cDNA, 3 end /clone=RKIAG90 /clone_end=3 /gb=AA891796 /gi=3018675 /ug=Rn.1327 /len=571

Table 2.

AA8918 00	5541 AAH11 417	5542 AF217187	5543 AAG367 81	5544 AAAGC367 81	85 Similar to pyrophosphat ase (inorganic)	BC011417 cDNA, 3 end /clone_end=3 /gb=AA891800 /gi=3018679 /ug=Rn.22707 /len=620
AA8918 00	5545 AAH11 417	5546 AF217187	5547 AAG367 81	85 Similar to pyrophosphat ase (inorganic)	BC011417 cDNA, 3 end /clone_end=3 /gb=AA891800 /gi=3018679 /ug=Rn.22707 /len=620	
AA8918 02	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)		rc_AA891802 EST195605 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA891802 /gi=3018681 /ug=Rn.8316 /len=648
AA8918 10	NP_067 515	5551 AF155650	5552 NP_060 904	5553 98.35 g1-related zinc finger protein [Mus musculus]	NM_02154 cDNA, 3 end /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 10	NP_067 515	5555 AF155650	5556 NP_060 904	5557 98.35 g1-related zinc finger protein [Mus musculus]	NM_02154 cDNA, 3 end /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 10	NP_067 515	5559 AF155650	5560 NP_060 904	5561 98.35 g1-related zinc finger protein [Mus musculus]	NM_02154 cDNA, 3 end /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 10	NP_067 515	5563 AF155650	5564 NP_060 904	5565 98.35 g1-related zinc finger protein [Mus musculus]	NM_02154 cDNA, 3 end /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 12	NP_067 515					rc_AA891812 EST195615 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620
AA8918 12	S5466 S54147	X58141	5567 S18207	5568 94 ESTs, Highly similar to S54147 alpha adducin - rat [R. norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620

Table 2.

AA8918 12	5572	S54147	X58141	5573	S18207	5574	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3 end /clone=RKIAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620
AA8918 12	5575	S54147	X58141	5576	S18207	5577	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3 end /clone=RKIAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620
AA8918 28	5578	P02466	5579	D21235	5580	P54725	5581	95.37	Homo sapiens, Similar to RAD23	rc_AA891828 EST195631 Rattus norvegicus cDNA, 3 end /clone=RKIAH33 /clone_end=3 /gb=AA891828 /gi=3018707 /ug=Rn.6963 /len=546
AA8918 28	5582	P02466	5583	D21235	5584	P54725	5585	95.37	Procollagen, type I, alpha 2	AF121217 rc_AA891828 EST195631 Rattus norvegicus cDNA, 3 end /clone=RKIAH33 /clone_end=3 /gb=AA891828 /gi=3018707 /ug=Rn.6963 /len=546
AA8918 29	5586	P22288	5587	U63810	5588	O76071	5589	92.83	Mus musculus NM_02529 WD40 protein 6 Ciao1 (Ciao1-pending)	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667
AA8918 29	5590	P22288	5591	U63810	5592	O76071	5593	92.83	Mus musculus NM_02529 WD40 protein 6 Ciao1 (Ciao1-pending)	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667
AA8918 29	5594	P22288	5595	U63810	5596	O76071	5597	92.83	Mus musculus NM_02529 WD40 protein 6 Ciao1 (Ciao1-pending)	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667

Table 2.

AA8918 29	5598	P22288	5599	U63810	5600	O76071	5601	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 29	5602	P22288	5603	U63810	5604	O76071	5605	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 29	5606	P22288	5607	U63810	5608	O76071	5609	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 42	No Rat Protein Found.	BC005192	5611	AAF642	5612	89.52	BM-018			rc_AA891842 EST195645 Rattus norvegicus cDNA, 3 end /clone=RKIAH53 /clone_end=3 /gb=AA891842 /gi=3018721 /ug=Rn.14714 /len=591		
AA8918 42	No Rat Protein Found.	BC005192	5614	AAF642	5615	89.52	BM-018			rc_AA891842 EST195645 Rattus norvegicus cDNA, 3 end /clone=RKIAH53 /clone_end=3 /gb=AA891842 /gi=3018721 /ug=Rn.14714 /len=591		
AA8918 48	P04762	5617	X04076	5618	P04040	5619	86.48	Mus musculus, Similar to solute carrier family 35 (CMP-sialic acid)		rc_AA891848 EST195651 Rattus norvegicus cDNA, 3 end /clone=RKIAH61 /clone_end=3 /gb=AA891848 /gi=3018727 /ug=Rn.8127 /len=617	Peroxisomal Catalase (EC 1.11.1.6).	
AA8918 57	Q9R1B 1									rc_AA891857 EST195660 Rattus norvegicus cDNA, 3 end /clone=RKIAH77 /clone_end=3 /gb=AA891857 /gi=3018736 /ug=Rn.13451 /len=501	Mitochondrial import inner membrane translocase subunit TIM9 B(Fracture callus protein 1) (FxC1).	
AA8918 59	No Rat Protein Found.	AA781413	5625	No Human Protein Found.				84.62	EST (not recognized)	rc_AA891859 EST195662 Rattus norvegicus cDNA, 3 end /clone=RKIAH79 /clone_end=3 /gb=AA891859 /gi=3018738 /ug=Rn.3920 /len=570		

Table 2.

AA8918 64	5626 102	AAG37 6	5627 6	XM_04374 5628 746	XP_043 5629 82	nuclear ATP/GTP- binding protein (Nna1)	AF219141	rc_AA891864 EST195667 Rattus norvegicus cDNA, 3 end /clone=RKIAH84 /clone_end=3 /gb=AA891864 /gi=3018743 /ug=Rn.19939 /len=608
AA8918 72	5630 Q61941	5631 U40490	5632 Q13423	5633 Q13772	88.73 5636	ESTs, Highly similar to NINTM MOUSE NAD(P) TRANSHYDR OGENASE, MITOCHOND RIAL PRECURSOR [M.musculus]	Z49204	rc_AA891872 EST195675 Rattus norvegicus cDNA, 3 end /clone=RKIAH93 /clone_end=3 /gb=AA891872 /gi=3018751 /ug=Rn.3128 /len=614
AA8918 77	No Rat Protein Found.	X77548 5635			89.19 5636	Mus musculus 18 days embryo cDNA, RIKEN	NM_022944	rc_AA891877 EST195680 Rattus norvegicus cDNA, 3 end /clone=RKIAI04 /clone_end=3 /gb=AA891877 /gi=3018756 /ug=Rn.7633 /len=548
AA8918 80	Q9JHY 2	5638 BC000124	5639 7	5640 Q9BWM 7	87.64 Triticarylate carrier-like protein	NM_022948 8	rc_AA891880 EST195683 Rattus norvegicus cDNA, 3 end /clone=RKIAI08 /clone_end=3 /gb=AA891880 /gi=3018759 /ug=Rn.1082 /len=452	Mitochondrial Sideroflexin 3.
AA8918 80	Q9JHY 2	5642 BC000124	5643 7	5644 Q9BWM 7	87.64 Triticarylate carrier-like protein	NM_022944 8	rc_AA891880 EST195683 Rattus norvegicus cDNA, 3 end /clone=RKIAI08 /clone_end=3 /gb=AA891880 /gi=3018759 /ug=Rn.1082 /len=452	Mitochondrial Sideroflexin 3.
AA8918 91	No Rat Protein Found.	XM_02908 1		XP_029 081		Topoisomeras e-related function protein 4-1	NM_022942 /len=452	rc_AA891891 EST195694 Rattus norvegicus cDNA, 3 end /clone=RKIAI20 /clone_end=3 /gb=AA891891 /gi=3018770 /ug=Rn.22710 /len=497
AA8919 11	Q63532 5646	5647 NM_0059 87	5648 9685073	85.85 Q03154	Small proline- rich protein gene	1	rc_AA891911 EST195714 Rattus norvegicus cDNA, 3 end /clone=RKIAI48 /clone_end=3 /gb=AA891911 /gi=3018790 /ug=Rn.14720 /len=383	Mitochondrial Sideroflexin 3.
AA8919 14	No Rat Protein Found.	D16307 5650		5651 Q03154	87.27 1	aminoacylase	rc_AA891914 EST195717 Rattus norvegicus cDNA, 3 end /clone=RKIAI52 /clone_end=3 /gb=AA891914 /gi=3018793 /ug=Rn.3679 /len=576	Mitochondrial Sideroflexin 3.
AA8919 43	No Rat Protein Found.				No	EST (not recognized)	rc_AA891943 EST195746 Rattus norvegicus cDNA, 3 end /clone=RKIAI86 /clone_end=3 /gb=AA891943 /gi=3018822 /ug=Rn.3564 /len=555	Mitochondrial Sideroflexin 3.

Table 2.

AA8919 44	5653 AAH05 419	5654 No human homolog found.	No Human Protein Found.	Mus musculus, Similar to interferon-g induced GTPase	BC005419 rc_AA891944 EST195747 Rattus norvegicus cDNA, 3 end /clone=RKIAK87 /clone_end=3 /gb=AA891944 /gi=3018823 /ug=Rn.8128 /len=605
AA8919 50	No Rat Protein Found.	BI870835 5656	No Human Protein Found.	87.4 Mus musculus adult male stomach cDNA, RIKEN	rc_AA891950 EST195753 Rattus norvegicus cDNA, 3 end /clone=RKIAK93 /clone_end=3 /gb=AA891950 /gi=3018829 /ug=Rn.2072 /len=542
AA8919 69	AAH05 436	5658 BEE886831	5659 NP_006 324	89.35 Mus musculus, nuclear DNA- binding protein, clone MGC:5983	BC005436 rc_AA891969 EST195772 Rattus norvegicus cDNA, 3 end /clone=RKIAK18 /clone_end=3 /gb=AA891969 /gi=3018848 /ug=Rn.14725 /len=343
AA8919 78	No Rat Protein Found.	AK000494 5662	No Human Protein Found.	90.09 EST(not recognised)	rc_AA891978 EST195781 Rattus norvegicus cDNA, 3 end /clone=RKIAK27 /clone_end=3 /gb=AA891978 /gi=3018857 /ug=Rn.3529 /len=305
AA8920 12	P00507 5664	M22632 5665	P00505 5666	94 Glutamate oxaloacetate transaminase 2, mitochondrial (aspartate aminotransfer ase 2)	rc_AA892012 EST195815 Rattus norvegicus cDNA, 3 end /clone=RKIAK66 /clone_end=3 /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363
AA8920 12	P00507 5668	5669 M22632	5670 P00505	94 Glutamate oxaloacetate transaminase 2, mitochondrial (aspartate aminotransfer ase 2)	rc_AA892012 EST195815 Rattus norvegicus cDNA, 3 end /clone=RKIAK66 /clone_end=3 /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363

Table 2.

AA8920 49	5672	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA892049 EST195852 Rattus norvegicus cDNA, 3 end /clone=RKIAM20 /clone_end=3 /gb=AA892049 /gi=3018928 /ug=Rn.15656 /len=531
AA8920 94	5673	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA892094 EST195897 Rattus norvegicus cDNA, 3 end /clone=RKIAM28 /clone_end=3 /gb=AA892094 /gi=3018973 /ug=Rn.18972 /len=404
AA8920 94	5674	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA892094 EST195897 Rattus norvegicus cDNA, 3 end /clone=RKIAM28 /clone_end=3 /gb=AA892094 /gi=3018973 /ug=Rn.18972 /len=404
AA8921 20	5675	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA892120 EST195923 Rattus norvegicus cDNA, 3 end /clone=RKIAM60 /clone_end=3 /gb=AA892120 /gi=3018999 /ug=Rn.9122 /len=476
AA8921 27	5676	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Human DNA sequence from clone RP3-41217 on chromosome		rc_AA892127 EST195930 Rattus norvegicus cDNA, 3 end /clone=RKIAM68 /clone_end=3 /gb=AA892127 /gi=3019006 /ug=Rn.3372 /len=528
AA8921 37	5677	No Rat Protein Found.	AL109701	5678	No Human Protein Found.	5679	86.52	Mus musculus adult male kidney cDNA, RIKEN
AA8921 49	5680	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)		rc_AA892137 EST195940 Rattus norvegicus cDNA, 3 end /clone=RKIAM79 /clone_end=3 /gb=AA892137 /gi=3019016 /ug=Rn.22737 /len=442
AA8921 54	5681	NP_037 292	5682	NM_0064 54	5683	Q14582	5684	50 Mad4 homolog (human)
AA8921 54	5685	NP_037 292	5686	NM_0064 54	5687	Q14582	5688	50 Mad4 homolog (human)
AA8921 79	5689	No Rat Protein Found.	AL050289	5690	O43734	5691	91.91 Similar to chromosome 6 open reading frame 5	rc_AA892154 EST195957 Rattus norvegicus cDNA, 3 end /clone=RKIAN02 /clone_end=3 /gb=AA892154 /gi=3019033 /ug=Rn.3279 /len=386
								rc_AA892179 EST195982 Rattus norvegicus cDNA, 3 end /clone=RKIAN31 /clone_end=3 /gb=AA892179 /gi=3019058 /ug=Rn.9031 /len=428

Table 2.

AA8922 48	5692	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Rattus norvegicus mitochondrial genome	rc_AA892248 EST196051 Rattus norvegicus cDNA, 3 end /clone=RKIAO18 /clone_end=3 /gb=AA892248 /gi=3019127 /ug=Rn.2277 /len=587
AA8922 48	5693	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Rattus norvegicus mitochondrial genome	rc_AA892248 EST196051 Rattus norvegicus cDNA, 3 end /clone=RKIAO18 /clone_end=3 /gb=AA892248 /gi=3019127 /ug=Rn.2277 /len=587
AA8922 59	5694	NP_036 723		M91196	5696	Q02566 ESTs, Highly similar to ICSB MOUSE INTERFERON CONSENSUS SEQUENCE BINDING PROTEIN [M.musculus]
AA8922 60	5698	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA892260 EST196063 Rattus norvegicus cDNA, 3 end /clone=RKIAO30 /clone_end=3 /gb=AA892260 /gi=3019139 /ug=Rn.9526 /len=554
AA8922 60	5699	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA892260 EST196063 Rattus norvegicus cDNA, 3 end /clone=RKIAO30 /clone_end=3 /gb=AA892260 /gi=3019139 /ug=Rn.9526 /len=554
AA8922 68	5700	No Rat Protein Found.	S59184	5701	P34925 EST (not recognised)	rc_AA892268 EST196071 Rattus norvegicus cDNA, 3 end /clone=RKIAO42 /clone_end=3 /gb=AA892268 /gi=3019147 /ug=Rn.14745 /len=433
AA8922 70	5703	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA892270 EST196073 Rattus norvegicus cDNA, 3 end /clone=RKIAO44 /clone_end=3 /gb=AA892270 /gi=3019149 /ug=Rn.3290 /len=584
AA8922 70	5704	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA892270 EST196073 Rattus norvegicus cDNA, 3 end /clone=RKIAO44 /clone_end=3 /gb=AA892270 /gi=3019149 /ug=Rn.3290 /len=584
AA8922 71	5705	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (mouse chromosome)	rc_AA892271 EST196074 Rattus norvegicus cDNA, 3 end /clone=RKIAO45 /clone_end=3 /gb=AA892271 /gi=3019150 /ug=Rn.3767 /len=665

Table 2.

AA8922 73	5706	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA892273 EST196076 Rattus norvegicus cDNA, 3 end /clone=RKIAQ47 /clone_end=3 /gb=AA892273 /gi=3019152 /ug=Rn.19941 /len=529
AA8922 84	5707	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA892284 EST196087 Rattus norvegicus cDNA, 3 end /clone=RKIAO58 /clone_end=3 /gb=AA892284 /gi=3019163 /ug=Rn.22719 /len=572
AA8922 97	5708	AAK111 83	5709	U31814	5710	Q92769	5711	AF321130 rc_AA892297 EST196100 Rattus norvegicus cDNA, 3 end /clone=RKIAO73 /clone_end=3 /gb=AA892297 /gi=3019176 /ug=Rn.1797 /len=640
AA8922 98	5712	CSRTA	5713	AF251049	5714	S64705	5715	rc_AA892298 EST196101 Rattus norvegicus cDNA, 3 end /clone=RKIAO74 /clone_end=3 /gb=AA892298 /gi=3019177 /ug=Rn.14747 /len=601
AA8922 99	5716	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA892299 EST196102 Rattus norvegicus cDNA, 3 end /clone=RKIAO75 /clone_end=3 /gb=AA892299 /gi=3019178 /ug=Rn.1708 /len=665
AA8923 00	5717	No Rat Protein Found.	U19721	5718	P50542	5719	92.45	rc_AA892300 EST196103 Rattus norvegicus cDNA, 3 end /clone=RKIAO76 /clone_end=3 /gb=AA892300 /gi=3019179 /ug=Rn.14316 /len=552
AA8923 18	5720	BAA947 43	5721	AB035384	5722	XP_038 801	5723	rc_AA892318 EST196121 Rattus norvegicus cDNA, 3 end /clone=RKIAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA8923 18	5724	BAA947 43	5725	AB035384	5726	NP_057 722	92.68	AB035383 rc_AA892318 EST196121 Rattus norvegicus cDNA, 3 end /clone=RKIAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541

Table 2.

AA8923 18	5728 43	BAA947 5729	AB035384 5730	XP_038 801	5731	92.68	Mus musculus mRNA for SRP25 nuclear protein, complete cds	AB035383 cDNA, 3 end /clone=RKIAQ96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541	rc_AA892318 EST196121 Rattus norvegicus cDNA, 3 end /clone=RKIAQ96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA8923 18	5732	BAA947 5733	AB035384 5734	NP_057 722	5735	92.68	SRP25 nuclear protein	AB035383 cDNA, 3 end /clone=RKIAQ96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541	rc_AA892318 EST196121 Rattus norvegicus cDNA, 3 end /clone=RKIAQ96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA8923 19	5736	No Rat Protein Found.	AK000396 5737	XP_041 315	86.5	Homo sapiens KIAA0781 protein	AK007964 cDNA, 3 end /clone=RKIAP01 /clone_end=3 /gb=AA892319 /gi=3019198 /ug=Rn.19709 /len=593	rc_AA892319 EST196122 Rattus norvegicus cDNA, 3 end /clone=RKIAP01 /clone_end=3 /gb=AA892319 /gi=3019198 /ug=Rn.19709 /len=593	
AA8923 25	5738	BAB253 75	XM_05219 4	XP_052 194	67	choline/ethanol aminephosph otransferase (CEPT1),	AK007964 cDNA, 3 end /clone=RKIAP09 /clone_end=3 /gb=AA892325 /gi=3019204 /ug=Rn.2636 /len=618	rc_AA892325 EST196128 Rattus norvegicus cDNA, 3 end /clone=RKIAP09 /clone_end=3 /gb=AA892325 /gi=3019204 /ug=Rn.2636 /len=618	
AA8923 53	5740	BAB243 00	XM_01671 6	XP_016 716		ESTs, Weakly similar to T33520 hypothetical protein T10B11.6 - Caenorhabditis elegans [C. elegans]	AK007964 cDNA, 3 end /clone=RKIAP42 /clone_end=3 /gb=AA892353 /gi=3019232 /ug=Rn.8133 /len=508	rc_AA892353 EST196156 Rattus norvegicus cDNA, 3 end /clone=RKIAP42 /clone_end=3 /gb=AA892353 /gi=3019232 /ug=Rn.8133 /len=508	
AA8923 53	5742	BAB243 00	XM_01671 6	XP_016 716		ESTs, Weakly similar to T33520 hypothetical protein T10B11.6 - C.elegans (listed is rat EST; mouse hypothetical protein)	AK007964 cDNA, 3 end /clone=RKIAP42 /clone_end=3 /gb=AA892353 /gi=3019232 /ug=Rn.8133 /len=508	rc_AA892353 EST196156 Rattus norvegicus cDNA, 3 end /clone=RKIAP42 /clone_end=3 /gb=AA892353 /gi=3019232 /ug=Rn.8133 /len=508	
AA8923 64	5744	NP_068 360	AB029309 5745	NP_057 396	5747	94.7	WW domain binding protein 4 11 (Wbp11),	NM_02171 cDNA, 3 end /clone=RKIAP55 /clone_end=3 /gb=AA892364 /gi=3019243 /ug=Rn.7741 /len=622	rc_AA892364 EST196167 Rattus norvegicus cDNA, 3 end /clone=RKIAP55 /clone_end=3 /gb=AA892364 /gi=3019243 /ug=Rn.7741 /len=622

Table 2.

AA8923 73	5748	Q9J192	5749	U83463	5750	O00560	5751	87.13	syntenin-1	AJ292243	rc_AA892373 EST196176 Rattus norvegicus cDNA, 3 end /clone=RKIAP65 /clone_end=3 /gb=AA892373 /gi=3019232 /ug=Rn.4309 /len=727	Mainly membrane-associated .	Syntenin 1 (Syndecan binding protein 1).
AA8923 76	NP_075 361	5753	AF061739	5754	XP_044 547	5755	93.22	protein associated with PRK1 (AWP1)	NM_022985	rc_AA892376 EST196179 Rattus norvegicus cDNA, 3 end /clone=RKIAP68 /clone_end=3 /gb=AA892376 /gi=3019255 /ug=Rn.2902 /len=624			
AA8923 78	NP_079 838	5757	NM_0160 68	5758	AAD341 30	5759	92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sapiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3 end /clone=RKIAP70 /clone_end=3 /gb=AA892378 /gi=3019237 /ug=Rn.1298 /len=589			
AA8923 78	No Rat Protein Found.	NM_0160 68	5761	XP_051 242			92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sapiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3 end /clone=RKIAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=589			
AA8923 78	NP_079 838	5763	NM_0160 68	5764	AAD341 30	5765	92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sapiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3 end /clone=RKIAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=589			
AA8923 78	No Rat Protein Found.	NM_0160 68	5767	XP_051 242			92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sapiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3 end /clone=RKIAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=589			
AA8923 88	P27274	5769	AF052941	5770	NP_055 141	5771	92.06	Mus musculus mRNA for Death-associated protein kinase 2	AB018002	rc_AA892388 EST196191 Rattus norvegicus cDNA, 3 end /clone=RKIAP80 /clone_end=3 /gb=AA892388 /gi=3019267 /ug=Rn.1231 /len=649	Attached to the membrane by a GPI-anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibition factor) (MACIF) (MAC-inhibitory protein) (MAC-IP) (Protectin).	

Table 2.

AA8923 94	5772	No Rat Protein Found.	AK057016	5773	No Human Protein Found.		100	EST(not recognised)		rc_AA892394 EST196197 Rattus norvegicus cDNA, 3 end /clone=RKIAQ90 /clone_end=3 /gb=AA892394 /gi=3019273 /ug=Rn.4183 /len=609
AA8923 94	5774	No Rat Protein Found.	AK057016	5775	No Human Protein Found.		100	EST(not recognised)		rc_AA892394 EST196197 Rattus norvegicus cDNA, 3 end /clone=RKIAQ90 /clone_end=3 /gb=AA892394 /gi=3019273 /ug=Rn.4183 /len=609
AA8924 00	5776	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.		EST (not recognized)		rc_AA892400 EST196203 Rattus norvegicus cDNA, 3 end /clone=RKIAQ01 /clone_end=3 /gb=AA892400 /gi=3019279 /ug=Rn.14755 /len=393	
AA8924 00	5777	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.		EST (not recognized)		rc_AA892400 EST196203 Rattus norvegicus cDNA, 3 end /clone=RKIAQ01 /clone_end=3 /gb=AA892400 /gi=3019279 /ug=Rn.14755 /len=393	
AA8924 14	5778	AAF143 45	5779	AF047033	5780	AAD383 22	5781	sodium bicarbonate cotransporter 3 (SLC4A7)		rc_AA892414 EST196217 Rattus norvegicus cDNA, 3 end /clone=RKIAQ16 /clone_end=3 /gb=AA892414 /gi=3019293 /ug=Rn.25345 /len=448
AA8924 17										rc_AA892417 EST196220 Rattus norvegicus cDNA, 3 end /clone=RKIAQ20 /clone_end=3 /gb=AA892417 /gi=3019296 /ug=Rn.8427 /len=482
										Attached to the membrane by a GPI- anchor .
AA8924 25	5782	P97553	5783	M57730	5784	P20827	5785	86.39	Mus musculus adult male tongue cDNA, RIKEN	rc_AA892425 EST196228 Rattus norvegicus cDNA, 3 end /clone=RKIAQ30 /clone_end=3 /gb=AA892425 /gi=3019304 /ug=Rn.8544 /len=498
AA8924 65	5786	No Rat Protein Found.	AA411025	5787	No Human Protein Found.		94.06	Mus musculus 11 days embryo cDNA, RIKEN		rc_AA892465 EST196268 Rattus norvegicus cDNA, 3 end /clone=RKIAQ77 /clone_end=3 /gb=AA892465 /gi=3019344 /ug=Rn.19942 /len=446

Table 2.

AA8924 96	5791	No Rat Protein Found.	AK026415	5792	P52757	5793	93.46	Weak homology with Homo sapiens chimerin (Chmærin) 2 (CHM2)		rc_AA892496 EST196299 Rattus norvegicus cDNA, 3 end /clone=RKIAS17 /gi=Rn.3571 /gb=AA892496 /gi=3019375 /ug=Rn.3571 /len=596
AA8925 00	5794	BAA773 41	AB014523	5795	XP_008 514	5797	86.89	UNC-51-like kinase (ULK) 2	AB019577 /len=590	rc_AA892500 EST196303 Rattus norvegicus cDNA, 3 end /clone=RKIAS21 /gi=Rn.8300 /gb=AA892500 /gi=3019379 /ug=Rn.8300 /len=590
AA8925 00	5798	BAA773 41	AB014523	5799	XP_008 514	5801	86.89	UNC-51-like kinase (ULK) 2	AB019577 /len=590	rc_AA892500 EST196303 Rattus norvegicus cDNA, 3 end /clone=RKIAS21 /gi=Rn.8300 /gb=AA892500 /gi=3019379 /ug=Rn.8300 /len=590
AA8925 05	5802	BAB232 17	AF230924	5803	XP_042 629	5805	91.22	Homo sapiens divalent cation tolerant protein CUTA		rc_AA892505 EST196308 Rattus norvegicus cDNA, 3 end /clone=RKIAS26 /gi=Rn.2595 /gb=AA892505 /gi=3019384 /ug=Rn.2595 /len=562
AA8925 07	5806	BAB226 91	NM_0015	5808	Q14197 45	5809	86.86	ESTs, Moderately similar to DS1_HUMAN DS-1 PROTEI [H.sapiens]		rc_AA892507 EST196310 Rattus norvegicus cDNA, 3 end /clone=RKIAS28 /gi=Rn.22728 /gb=AA892507 /gi=3019386 /ug=Rn.22728 /len=541
AA8925 11	5810	AAF404 39	U61538	5812	Q99653	5813		Mus musculus tescalcin	AF234783 /len=593	rc_AA892511 EST196314 Rattus norvegicus cDNA, 3 end /clone=RKIAS32 /gi=Rn.14758 /gb=AA892511 /gi=3019390 /ug=Rn.14758 /len=593
AA8925 11	5814	AAF404 39	U61538	5815	Q99653	5817		Mus musculus tescalcin	AF234783 /len=593	rc_AA892511 EST196314 Rattus norvegicus cDNA, 3 end /clone=RKIAS32 /gi=Rn.14758 /gb=AA892511 /gi=3019390 /ug=Rn.14758 /len=593
AA8925 22	5818	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.			EST (not recognized)		rc_AA892522 EST196325 Rattus norvegicus cDNA, 3 end /clone=RKIAS45 /gi=Rn.19440 /gb=AA892522 /gi=3019401 /ug=Rn.19440 /len=560
AA8925 26	5819	No Rat Protein Found.	AB002405	5820	No	5821	87.5	Mus musculus, clone MGC:19168		rc_AA892526 EST196329 Rattus norvegicus cDNA, 3 end /clone=RKIAS49 /gi=Rn.14761 /gb=AA892526 /gi=3019405 /ug=Rn.14761 /len=502

Table 2.

AA8925 31	5822	B39066	AL136746	5823	AAG155 89	5824	94.78	ESTs, Weakly similar to B39066 proline-rich protein 15 - rat [R. norvegicus]	rc_AA892531 EST196334 Rattus norvegicus cDNA, 3 end /clone=RKIAS5 /clone_end=3 /gb=AA892531 /gi=3019410 /ug=Rn.23798 /len=559
AA8925 38	5825	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (some homology with mouse chromosomal)	rc_AA892538 EST196341 Rattus norvegicus cDNA, 3 end /clone=RKIAS62 /clone_end=3 /gb=AA892538 /gi=3019417 /ug=Rn.3573 /len=609	
AA8925 38	5826	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (some homology with mouse chromosomal)	rc_AA892538 EST196341 Rattus norvegicus cDNA, 3 end /clone=RKIAS62 /clone_end=3 /gb=AA892538 /gi=3019417 /ug=Rn.3573 /len=609	
AA8925 47	5827	No Rat Protein Found.	AI927365	5828	AAF291 25	5829	93.81	Homo sapiens HSPC161	rc_AA892547 EST196350 Rattus norvegicus cDNA, 3 end /clone=RKIAS72 /clone_end=3 /gb=AA892547 /gi=3019426 /ug=Rn.3269 /len=584
AA8925 48	5830	P02551	5831	X01703	5832	A23035	100	Alpha-tubulin	rc_AA892548 EST196351 Rattus norvegicus cDNA, 3 end /clone=RKIAS73 /clone_end=3 /gb=AA892548 /gi=3019427 /ug=Rn.14764 /len=618
AA8925 49	5833	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST(not recognised)	rc_AA892549 EST196352 Rattus norvegicus cDNA, 3 end /clone=RKIAS74 /clone_end=3 /gb=AA892549 /gi=3019428 /ug=Rn.3576 /len=644	
AA8925 50	5834	No Rat Protein Found.	AK024048	5835	No Human Protein Found.	5836	92.96	EST(not recognised)	rc_AA892550 EST196353 Rattus norvegicus cDNA, 3 end /clone=RKIAS75 /clone_end=3 /gb=AA892550 /gi=3019429 /ug=Rn.4284 /len=566
AA8925 50	5837	No Rat Protein Found.	AK024048	5838	No Human Protein Found.	5839	92.96	EST(not recognised)	rc_AA892550 EST196353 Rattus norvegicus cDNA, 3 end /clone=RKIAS75 /clone_end=3 /gb=AA892550 /gi=3019429 /ug=Rn.4284 /len=566

Table 2.

AA8925 54	5840	No Rat Protein Found.	AF070615	5841	Q9UN86	5842	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3 end /clone=RKI1AS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 54	5843	No Rat Protein Found.	AF070615	5844	Q9UN86	5845	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3 end /clone=RKI1AS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 54	5846	No Rat Protein Found.	AF070615	5847	Q9UN86	5848	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3 end /clone=RKI1AS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 54	5849	No Rat Protein Found.	AF070615	5850	Q9UN86	5851	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3 end /clone=RKI1AS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 61	5852	No Rat Protein Found.	NM_0140 39	5853	No Human Protein Found.		87.2	EST (not recognized)	rc_AA892561 EST196364 Rattus norvegicus cDNA, 3 end /clone=RKI1AS89 /clone_end=3 /gb=AA892561 /gi=3019440 /ug=Rn.24636 /len=459
AA8926 35	5854	TVRTR H	BC013135	5855	P17081	5857	94.26	Ras-like protein	rc_AA892635 EST196438 Rattus norvegicus cDNA, 3 end /clone=RK1AV15 /clone_end=3 /gb=AA892635 /gi=3019514 /ug=Rn.12720 /len=478

Table 2.

AA8926 35	5858	TVRTR H	5859	BCC013135	5860	P17081	5861	94.26	Ras-like protein		rc_AA892635 EST196438 Rattus norvegicus cDNA, 3 end /clone=RKIAV15 /clone_end=3 /gb=AA892635 /gi=3019514 /ug=Rn.12720 /len=478
AA8926 37	5862	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.				EST (not recognized)		rc_AA892637 EST196440 Rattus norvegicus cDNA, 3 end /clone=RKIAV17 /clone_end=3 /gb=AA892637 /gi=3019516 /ug=Rn.11527 /len=480
AA8926 42	5863	No Rat Protein Found.	AL162039	5864	No		83.23	Homo sapiens mRNA; cDNA DKFZp434M2 29		rc_AA892642 EST196445 Rattus norvegicus cDNA, 3 end /clone=RKIAV23 /clone_end=3 /gb=AA892642 /gi=3019521 /ug=Rn.14778 /len=506	
AA8926 75	5865	No Rat Protein Found.	AF267858	5866	AAG447 27			GL014 mRNA		rc_AA892675 EST196478 Rattus norvegicus cDNA, 3 end /clone=RKIAV64 /clone_end=3 /gb=AA892675 /gi=3019554 /ug=Rn.16542 /len=413	
AA8926 80	5868	CSR TA	5869	AF251049	5870	S64705	5871	95.29	ESTs, Weakly similar to PEPTIDYL- PROLYL CIS- TRANS ISOMERASE A [R. norvegicus]		rc_AA892680 EST196483 Rattus norvegicus cDNA, 3 end /clone=RKIAV69 /clone_end=3 /gb=AA892680 /gi=3019559 /ug=Rn.14747 /len=451
AA8927 54											rc_AA892754 EST196557 Rattus norvegicus cDNA, 3 end /clone=RKIAW82 /clone_end=3 /gb=AA892754 /gi=3019633 /ug=Rn.14788 /len=382
AA8927 75	5873	NP_036 903	5874	NM_0002 39	5875	P00695	5876	66	Lysozyme	NM_01277 1	rc_AA892775 EST196578 Rattus norvegicus cDNA, 3 end /clone=RKIAX18 /clone_end=3 /gb=AA892775 /gi=3019654 /ug=Rn.2283 /len=711
AA8927 79	5877	No Rat Protein Found.	AL136667	5878	No	5879	89.32	EST (not recognized)		rc_AA892779 EST196582 Rattus norvegicus cDNA, 3 end /clone=RKIAX22 /clone_end=3 /gb=AA892779 /gi=3019658 /ug=Rn.7319 /len=662	
AA8927 79	5880	No Rat Protein Found.	AL136667	5881	No	5882	89.32	EST (not recognized)		rc_AA892779 EST196582 Rattus norvegicus cDNA, 3 end /clone=RKIAY22 /clone_end=3 /gb=AA892779 /gi=3019658 /ug=Rn.7319 /len=662	

Table 2.

AA8927 80	5883	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA892780 EST196583 Rattus norvegicus cDNA, 3 end /clone=RKIAX23 /clone_end=3 /gb=AA892780 /gi=3019659 /ug=Rn.14793 /len=558	
AA8928 01	5884	P05197	5885	M19997	5886	P13639	5887	99 Eukaryotic translation elongation factor 2
AA8928 01	5888	P05197	5889	M19997	5890	P13639	5891	99 Eukaryotic translation elongation factor 2
AA8928 01	5892	P05197	5893	M19997	5894	P13639	5895	99 Eukaryotic translation elongation factor 2
AA8928 01	5896	P05197	5897	M19997	5898	P13639	5899	99 Eukaryotic translation elongation factor 2
AA8928 05	5900	No Rat Protein Found.	BG420645	5901	No Human Protein Found.		81.94	Mus musculus adult male testis cDNA, RIKEN
AA8928 13	5902	No Rat Protein Found.	AF061261	5903	XP_007 221	5904	99.17	Homo sapiens region containing C3H-type zinc finger protein
AA8928 18	5905	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognised)
AA8928 20	5906	S70642	AB007899	5907	BAA237 11	5908	58	ESTs, Weakly similar to S70642 ubiquitin ligase Nedd4-rat [R. norvegicus]
								rc_AA892820 EST196623 Rattus norvegicus cDNA, 3 end /clone=RKIAX65 /clone_end=3 /gb=AA892820 /gi=3019699 /ug=Rn.1761 /len=590

Table 2.

AA8928 21	5909 96	BAA903 96	5910 Y16675	5911 O43488	5912 Rattus norvegicus air mRNA for androgen- inducible aldehyde reductase	88.43 rc_AA892821 EST196624 Rattus norvegicus cDNA, 3 end /clone=RKIAAX66 /clone_end=3 /gb=AA892821 /gi=3019700 /ug=Rn.8548 /len=503
AA8928 21	5913 96	BAA903 96	5914 Y16675	5915 O43488	5916 Rattus norvegicus air mRNA for androgen- inducible aldehyde reductase	88.43 rc_AA892821 EST196624 Rattus norvegicus cDNA, 3 end /clone=RKIAAX66 /clone_end=3 /gb=AA892821 /gi=3019700 /ug=Rn.8548 /len=503
AA8928 28	5917 P49432	5918 M34055	5919 P11177	5920 ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R. norvegicus]	96.15 rc_AA892828 EST196631 Rattus norvegicus cDNA, 3 end /clone=RKIAAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626	
AA8928 28	5921 P49432	5922 M34055	5923 P11177	5924 ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R. norvegicus]	96.15 rc_AA892828 EST196631 Rattus norvegicus cDNA, 3 end /clone=RKIAAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626	

Table 2.

AA8928 28	5925	P49432	5926	M34055	5927	P11177	5928	96.15	ESTs, Highly similar to CDPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R. <i>norvegicus</i>]]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3 end /clone=RKIAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626
AA8928 28	5929	P49432	5930	M34055	5931	P11177	5932	96.15	ESTs, Highly similar to CDPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R. <i>norvegicus</i>]]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3 end /clone=RKIAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626
AA8928 28	5933	P49432	5934	M34055	5935	P11177	5936	96.15	ESTs, Highly similar to CDPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R. <i>norvegicus</i>]]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3 end /clone=RKIAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626

Table 2.

AA8928 28	5937	P49432	5938	M34055	5939	P1177	5940	96.15	ESTs. Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R. <i>norvegicus</i>]	rc_AA892828 EST196631 Rattus <i>norvegicus</i> cDNA, 3 end /clone=RKIAAX75 /gi=3019707 /ug=Rn.2273 /gb=AA892828 /len=626
AA8928 29	5941	NP_035 993	5942	Y10387	5943	O43252	5944	86.44	Mus <i>musculus</i> NM_01186 3'- phosphoaden osine 5'- phosphosulfat e synthase 1	rc_AA892829 EST196632 Rattus <i>norvegicus</i> cDNA, 3 end /clone=RKIAAX76 /gi=3019708 /ug=Rn.3507 /gb=AA892829 /len=634
AA8928 32	5945	No Rat Protein Found.				No Human homolog found.			Mus <i>musculus</i> 18 days embryo cDNA, RIKEN	rc_AA892832 EST196635 Rattus <i>norvegicus</i> cDNA, 3 end /clone=RKIAAX79 /gi=3019711 /ug=Rn.4243 /len=605
AA8928 35	5946	No Rat Protein Found.				AK027582	5947	JC1235	93.82 ESTs, Moderately similar to BTF3 MOUSE TRANSCRIPT ION FACTOR BTF3 [M. <i>musculus</i>]	rc_AA892835 EST196638 Rattus <i>norvegicus</i> cDNA, 3 end /clone=RKIAAX82 /gi=3019714 /ug=Rn.3613 /gb=AA892835 /len=570
AA8928 42	5948	No Rat Protein Found.				U03851	5949	P47755	96.85 Rattus <i>norvegicus</i> clone RP31-188L2	rc_AA892842 EST196645 Rattus <i>norvegicus</i> cDNA, 3 end /clone=RKIAAX90 /gi=3019721 /ug=Rn.3947 /gb=AA892842 /len=544
AA8928 43	5951	No Rat Protein Found.				AK024570	5952	No	5953 87.57 Mus <i>musculus</i> , RIKEN cDNA 2010005E08	rc_AA892843 EST196646 Rattus <i>norvegicus</i> cDNA, 3 end /clone=RKIAAX91 /gi=3019722 /ug=Rn.3728 /len=600
AA8928 47	5954	CAA11 703	5955	NM_00002	5956	P17050	5957	82	alpha-N-acetylgalactos aminidase	rc_AA892847 EST196650 Rattus <i>norvegicus</i> cDNA, 3 end /clone=RKIAAX96 /gi=3019726 /ug=Rn.25171 /len=537

Table 2.

AA8928 49	5958	No Rat Protein Found.	BC002713	5959	Q14582	5960	96.15	Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA892849 EST196652 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA892849 /gi=3019728 /ug=Rn.3615 /len=593	
AA8928 51	5961	No Rat Protein Found.	BE139189	5962	AAC500 62	5963	90.18	EST, weakly similar to Human protein tyrosine kinase	rc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA892851 /gi=3019730 /ug=Rn.3616 /len=586	
AA8928 51	5964	No Rat Protein Found.	BE139189	5965	AAC500 62	5966	90.18	EST, weakly similar to Human protein tyrosine kinase	rc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA892851 /gi=3019730 /ug=Rn.3616 /len=586	
AA8928 51	5967	No Rat Protein Found.	BE139189	5968	AAC500 62	5969	90.18	EST, weakly similar to Human protein tyrosine kinase	rc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA892851 /gi=3019730 /ug=Rn.3616 /len=586	
AA8928 51	5970	No Rat Protein Found.	BE139189	5971	AAC500 62	5972	90.18	EST, weakly similar to Human protein tyrosine kinase	rc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA892851 /gi=3019730 /ug=Rn.3616 /len=586	
AA8928 54	5973	NP_061 354	5974	NM_0064 19	5975	O43927	5976	44 small inducible cytokine subfamily B (Cys-X-Cys), member 13 (Scyb13),	NM_01886 6 rc_AA892854 EST196657 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA892854 /gi=3019733 /ug=Rn.6917 /len=591	
AA8928 60	5977	No Rat Protein Found.	AA032215	5978	Q07889	5979	94.37	EST(not recognised)	rc_AA892860 EST196663 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA892860 /gi=3019739 /ug=Rn.21424 /len=436	
AA8928 60	5980	No Rat Protein Found.	AA032215	5981	Q07889	5982	94.37	EST(not recognised)	rc_AA892860 EST196663 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA892860 /gi=3019739 /ug=Rn.21424 /len=436	

Table 2.

AA8928 63	5983	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA892863 EST196666 Rattus norvegicus cDNA, 3 end /clone=RKIAY23 /clone_end=3 /gb=AA892863 /gi=3019742 /ug=Rn.1076 /len=534	
AA8928 64	NP_035 974	5985	XM_04258 5	XP_042 585	84	Monoglyceride lipase	NM_01184 4 cDNA, 3 end /clone=RKIAY25 /clone_end=3 /gb=AA892864 /gi=3019743 /ug=Rn.18592 /len=570	
AA8928 88	5986	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA892888 EST196691 Rattus norvegicus cDNA, 3 end /clone=RKIAY54 /clone_end=3 /gb=AA892888 /gi=3019767 /ug=Rn.14801 /len=508	
AA8928 95	5987	P11174	5988	AA434279	5989	R3HU15	5990 93.45 Ribosomal protein S15	rc_AA892895 EST196698 Rattus norvegicus cDNA, 3 end /clone=RKIAY64 /clone_end=3 /gb=AA892895 /gi=3019774 /ug=Rn.3391 /len=508
AA8928 95	5991	P11174	5992	AA434279	5993	R3HU15	5994 93.45 Ribosomal protein S15	rc_AA892895 EST196698 Rattus norvegicus cDNA, 3 end /clone=RKIAY64 /clone_end=3 /gb=AA892895 /gi=3019774 /ug=Rn.3391 /len=508

Table 2.

AA892919	5995	P41777	5996	No human homolog found.	No Human Protein Found.	Nucleolar phosphoprotein of 140kD	M94288	rc_AA892919 EST196722 Rattus norvegicus cDNA, 3' end /clone=RK1AY91 /clone_end=3 /gb=AA892919 /gi=3019798 /ug=Rn.9517 /len=574	rc_AA892919 EST196722 Rattus norvegicus cDNA, 3' end /clone=RK1AY91 /clone_end=3 /gb=AA892919 /gi=3019798 /ug=Rn.9517 /len=574	SHUTTLES ON CURVILINEA R TRACKS BETWEEN NUCLEOLI S AND CYTOPLAS M. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLU S ACROSS THE NUCLEOPLA SM TO A LIMITED NUMBER OF NUCLEAR PORE COMPL	Nucleolar phosphoprotein p130 (Nucleolar protein) (140 kDa nucleolar phosphoprotein) (Nopp140) (Nucleolar and coiled-body phosphoprotein 1).

Table 2.

AA8929 19	5997	P41777	5998	XM_00591 8	XP_005 918	42	nucleolar phosphoprotein of 140kD, Nopp140	M94288	rc_AA892919 EST196722 Rattus norvegicus cDNA, 3 end /clone=RKIAY91 /clone_end=3 /gb=AA892919 /gi=3019798 /ug=Rn.9517 /len=574	SHUTTLES ON CURVILINEAR TRACKS BETWEEN NUCLEOLUS AND CYTOPLAS M. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLUS ACROSS THE NUCLEOPLASM TO A LIMITED NUMBER OF NUCLEAR PORE COMPL.
AA8929 67	5999	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	AK018158	RIKEN full-length cDNA mouse	rc_AA892967 EST196770 Rattus norvegicus cDNA, 3 end /clone=RKIBA44 /clone_end=3 /gb=AA892967 /gi=3019846 /ug=Rn.1936 /len=379			
AA8929 99	6000	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)		rc_AA892989 EST196802 Rattus norvegicus cDNA, 3 end /clone=RKIBA90 /clone_end=3 /gb=AA892999 /gi=3019878 /ug=Rn.13463 /len=465			
AA8930 02	6001	No Rat Protein Found.	BG261086	60002	No	92.24	EST (not recognized)	rc_AA893002 EST196805 Rattus norvegicus cDNA, 3 end /clone=RKIBA94 /clone_end=3 /gb=AA893002 /gi=3019881 /ug=Rn.13464 /len=289		
AA8930 11	6003	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognized)	rc_AA893011 EST196814 Rattus norvegicus cDNA, 3 end /clone=RKIBB08 /clone_end=3 /gb=AA893011 /gi=3019890 /ug=Rn.22720 /len=365		

Table 2.

AA8930 32	6004	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA893032 EST196835 Rattus norvegicus cDNA, 3 end /clone=RKIBB31 /clone_end=3 /gb=AA893032 /gi=3019911 /ug=Rn.12640 /len=367
AA8930 82	NP_062 191	6006	AF055376	6007	XP_035 579	6008	97.47 v-maf musculoapone urotic fibrosarcoma	NM_01931 8
AA8930 88	6009	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA893082 EST196885 Rattus norvegicus cDNA, 3 end /clone=RKIBB8 /clone_end=3 /gb=AA893082 /gi=3019961 /ug=Rn.6545 /len=479
AA8931 72	6010	No Rat Protein Found.	AK023165	6011	No Human Protein Found.		93.39 EST (not recognized)	rc_AA893172 EST196891 Rattus norvegicus cDNA, 3 end /clone=RKIBB4 /clone_end=3 /gb=AA893088 /gi=3019967 /ug=Rn.3649 /len=479
AA8931 83	6012	No Rat Protein Found.		XM_01786 6	XP_017 866		ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]	rc_AA893183 EST196975 Rattus norvegicus cDNA, 3 end /clone=RKIBD10 /clone_end=3 /gb=AA893183 /gi=3020051 /ug=Rn.22629 /len=634
AA8931 83	6013	No Rat Protein Found.		No human homolog found.	S57447	6014	63 ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]	rc_AA893183 EST196986 Rattus norvegicus cDNA, 3 end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
AA8931 83	6015	No Rat Protein Found.		XM_01786 6	XP_017 866		ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]	rc_AA893183 EST196986 Rattus norvegicus cDNA, 3 end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
AA8931 83	6016	No Rat Protein Found.		No human homolog found.	S57447	6017	63 ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]	rc_AA893183 EST196986 Rattus norvegicus cDNA, 3 end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491

Table 2.

AA8931 84	6018	No Rat Protein Found.	XM_00609 4	XP_006 094		Pyruvate dehydrogenas e		rc_AA893184 EST196987 Rattus norvegicus cDNA, 3 end /clone=RKIBD26 /clone_end=3 /gb=AA893184 /gi=3020063 /ug=Rn.19819 /len=643
AA8931 93	6019	No Rat Protein Found.	AA904277	6020	No Human Protein Found.	EST(not recognised)		rc_AA893193 EST196996 Rattus norvegicus cDNA, 3 end /clone=RKIBD37 /clone_end=3 /gb=AA893193 /gi=3020072 /ug=Rn.1779 /len=646
AA8932 17	6021	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	Homo sapiens, clone IMAGE:46408 16		rc_AA893217 EST197020 Rattus norvegicus cDNA, 3 end /clone=RKIBD65 /clone_end=3 /gb=AA893217 /gi=3020096 /ug=Rn.1431 /len=663
AA8932 30	6022	No Rat Protein Found.	AF308287	6023	No Human Protein Found.	Mus musculus adult male tongue cDNA, RIKEN		rc_AA893230 EST197033 Rattus norvegicus cDNA, 3 end /clone=RKIBD83 /clone_end=3 /gb=AA893230 /gi=3020109 /ug=Rn.13485 /len=646
AA8932 60	6024	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	long interspersed repeated element LINE		rc_AA893260 EST197063 Rattus norvegicus cDNA, 3 end /clone=RKIBE21 /clone_end=3 /gb=AA893260 /gi=3020139 /ug=Rn.3550 /len=512
AA8932 89	6025	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	EST(not recognised)		rc_AA893289 EST197092 Rattus norvegicus cDNA, 3 end /clone=RKIBE56 /clone_end=3 /gb=AA893289 /gi=3020168 /ug=Rn.13493 /len=296
AA8933 20	6026	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	EST(not recognised)		rc_AA893320 EST197123 Rattus norvegicus cDNA, 3 end /clone=RKIBF04 /clone_end=3 /gb=AA893320 /gi=3020199 /ug=Rn.13340 /len=370
AA8933 28	6027	P35565	6028	L10284	6029	P27824	6030	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R. norvegicus]
AA8933 38	6031	No Rat Protein Found.	BCC08045	6032	No Human Protein Found.		95.18	Mus musculus adult male lung cDNA, RIKEN
AA8934 06	6034	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	EST(not recognised)		rc_AA893406 EST197141 Rattus norvegicus cDNA, 3 end /clone=RKIBF24 /clone_end=3 /gb=AA893406 /gi=3020217 /ug=Rn.25105 /len=519
								rc_AA893406 EST197209 Rattus norvegicus cDNA, 3 end /clone=RLIAB05 /clone_end=3 /gb=AA893406 /gi=3020285 /ug=Rn.8150 /len=493

Table 2.

AA8934	6035	AAA927	6036	NM_0156 46	6037	P09526	6038	86	Rap1B		rc_AA893443 EST197246 Rattus norvegicus cDNA, 3 end /clone=RLIAB52 /clone_end=3 /gb=AA893443 /gi=3020322 /ug=Rn.4992 /len=548		
AA8934	6039	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				EST(not recognised)			rc_AA893454 EST197257 Rattus norvegicus cDNA, 3 end /clone=RLIAB64 /clone_end=3 /gb=AA893454 /gi=3020333 /ug=Rn.7329 /len=387		
AA8934	6040	NP_035 391	6041	NM_0050 45	6042	P78569	6043	93	reelin (Rein), 1	NM_01126	rc_AA893471 EST197274 Rattus norvegicus cDNA, 3 end /clone=RLIAB84 /clone_end=3 /gb=AA893471 /gi=3020350 /ug=Rn.11927 /len=354		
AA8935	6044	AK0140	No human homolog found.	No Human Protein Found.				EST (mouse Riken protein)			rc_AA893532 EST197335 Rattus norvegicus cDNA, 3 end /clone=RLIAD60 /clone_end=3 /gb=AA893532 /gi=3020411 /ug=Rn.12953 /len=598		
AA8935	6045	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				EST (not recognized)			rc_AA893569 EST197372 Rattus norvegicus cDNA, 3 end /clone=RPLAC07 /clone_end=3 /gb=AA893569 /gi=3020448 /ug=Rn.12954 /len=461		
AA8935	6046	AK0160	6047	BC003542	6048	AAH035 42	6049		Mouse RIKEN full-length cDNA		rc_AA893596 EST197399 Rattus norvegicus cDNA, 3 end /clone=RPLAC38 /clone_end=3 /gb=AA893596 /gi=3020475 /ug=Rn.22237 /len=564		
AA8935	6050	AK0160	6051	BC003542	6052	AAH035 42	6053		Mouse RIKEN full-length cDNA		rc_AA893596 EST197399 Rattus norvegicus cDNA, 3 end /clone=RPLAC38 /clone_end=3 /gb=AA893596 /gi=3020475 /ug=Rn.22237 /len=564		
AA8935	6054	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				EST (not recognized)			rc_AA893603 EST197406 Rattus norvegicus cDNA, 3 end /clone=RPLAC46 /clone_end=3 /gb=AA893603 /gi=3020482 /ug=Rn.14813 /len=511		
AA8936	6055	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				EST (not recognized)			rc_AA893603 EST197406 Rattus norvegicus cDNA, 3 end /clone=RPLAC46 /clone_end=3 /gb=AA893603 /gi=3020482 /ug=Rn.14813 /len=511		
AA8936	6056	AAC97	6057	XM_03440 3	XP_034 403		86	Intersectin-EH binding protein lbp1	AF057285		rc_AA893612 EST197415 Rattus norvegicus cDNA, 3 end /clone=RPLAC57 /clone_end=3 /gb=AA893612 /gi=3020491 /ug=Rn.14814 /len=265		
AA8936	6058	AAC97	6059	XM_03440 3	XP_034 403		86	Intersectin-EH binding protein lbp1	AF057285		rc_AA893612 EST197415 Rattus norvegicus cDNA, 3 end /clone=RPLAC57 /clone_end=3 /gb=AA893612 /gi=3020491 /ug=Rn.14814 /len=265		

Table 2.

AA8936 21	6080 95	BAB200	6061 10	NM_0204	6082	Q9HD20	6063	89.66	Mus musculus	AB035381	rc_AA893621 EST197424 Rattus norvegicus cDNA, 3 end /clone=RPLAC68 /clone_end=3 /gb=AA893621 /gi=30205000 /ug=Rn.3697 /len=607
AA8936 41	6064 7	Q9QXQ	6065 7	AL390088	6066	P41221	6067	89.05	ESTs, Highly similar to WIN5A_RAT WNT-5A PROTEIN PRECURSOR [R.norvegicus]	rc_AA893641 EST197444 Rattus norvegicus cDNA, 3 end /clone=RPLAC90 /clone_end=3 /gb=AA893641 /gi=30205200 /ug=Rn.3699 /len=508	
AA8936 41	6068 7	Q9QXQ	6069 7	AL390088	6070	P41221	6071	89.05	ESTs, Highly similar to WIN5A_RAT WNT-5A PROTEIN PRECURSOR [R.norvegicus]	rc_AA893641 EST197444 Rattus norvegicus cDNA, 3 end /clone=RPLAC90 /clone_end=3 /gb=AA893641 /gi=30205200 /ug=Rn.3699 /len=508	
AA8936 62	No Rat Protein Found.	No human homolog found.	No Human Protein Found.					EST(not recognised)		rc_AA893662 EST197465 Rattus norvegicus cDNA, 3 end /clone=RPLA16 /clone_end=3 /gb=AA893662 /gi=3020541 /ug=Rn.14817 /len=457	
AA8936 63	NP_033 209	6074	AA833803	6075	NP_005 659	6076	84.35	slaytransfera se 8	NM_00918 3	rc_AA893663 EST197466 Rattus norvegicus cDNA, 3 end /clone=RPLA18 /clone_end=3 /gb=AA893663 /gi=3020542 /ug=Rn.13170 /len=520	
AA8936 64	No Rat Protein Found.	D33521	6078	No Human Protein Found.			90.91	Homo sapiens BAC clone RP11-334F17 from 2		rc_AA893664 EST197467 Rattus norvegicus cDNA, 3 end /clone=RPLA19 /clone_end=3 /gb=AA893664 /gi=3020543 /ug=Rn.14818 /len=409	
AA8936 67	AAK697 54	6080	BC007235	6081	AF3785	6082	92.26	Mus musculus mRNA from 2	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3 end /clone=RPLAI23 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485	
AA8936 67	AAK697 54	6084	BC007235	6085	AF3785	6086	92.26	Mus musculus mRNA from 2		rc_AA893667 EST197470 Rattus norvegicus cDNA, 3 end /clone=RPLAI23 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485	

Table 2.

AA8936 67	6087 AAK697 54	6088 BC007235 24	6089 AF3785 24	6090 Mus musculus nlin283 mRNA	92.26	AF378525 rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6091 AAK697 54	6092 BC007235 24	6093 AF3785 24	6094 Mus musculus nlin283 mRNA	92.26	AF378525 rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6095 AAK697 54	6096 BC007235 24	6097 AF3785 24	6098 Mus musculus nlin283 mRNA	92.26	AF378525 rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6099 AAK697 54	6100 BC007235 24	6101 AF3785 24	6102 Mus musculus nlin283 mRNA	92.26	AF378525 rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6103 No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA893670 EST197473 Rattus norvegicus cDNA, 3' end /clone=RPLA126 /clone_end=3 /gb=AA893670 /gi=3020549 /ug=Rn.22753 /len=461
AA8936 83	6104 NP_061 283	6105 NM_0162 07	6106 Q9UKF6 07	6107 Mus musculus cleavage and polyadenylation factor 3	87.11 NM_01881 3	rc_AA893683 EST197486 Rattus norvegicus cDNA, 3' end /clone=RPLA140 /clone_end=3 /gb=AA893683 /gi=3020562 /ug=Rn.14820 /len=497
AA8936 90	NP_062 308	6109 AA288860 65	6110 AAH106 65	6111 Mus musculus neuronal protein 15.6 (Np15.6- pending)	87.5 NM_01943 5	rc_AA893690 EST197493 Rattus norvegicus cDNA, 3' end /clone=RPLA147 /clone_end=3 /gb=AA893690 /gi=3020569 /ug=Rn.3377 /len=492
AA8937 17	AAH10 715	6113 AL136794 28	6114 CAB667 28	6115 Mus musculus, Rac GTPase- activating protein 1 (LOW HOMOLOGY)	BC010715 rc_AA893717 EST197520 Rattus norvegicus cDNA, 3' end /clone=RPLA179 /clone_end=3 /gb=AA893717 /gi=3020596 /ug=Rn.19950 /len=472	

Table 2.

AA8937 33	6116	S40148	M34480	6117	P08514	6118	86.86	ESTs. Weakly similar to S40148 integrin alpha- 7A chain - rat [R. norvegicus]		rc_AA893733 EST197536 Rattus norvegicus cDNA, 3 end /clone=RPLAK02 /clone_end=3 /gb=AA893733 /gi=3020612 /ug=Rn.14827 /len=400
AA8937 42	6119	NP_038 944	6120	A1377110	6121	No Human Protein Found.	95.28	Mus musculus Hoxa1 regulated gene (Ha1r- pending), mRNA	NM_01391 6	rc_AA893742 EST197545 Rattus norvegicus cDNA, 3 end /clone=RPLAK13 /clone_end=3 /gb=AA893742 /gi=3020621 /ug=Rn.13504 /len=455
AA8937 43	6122	No Rat Protein Found.		A1092788	6123	P04541	6124	89.32	EST (not recognised)	rc_AA893743 EST197546 Rattus norvegicus cDNA, 3 end /clone=RPLAK14 /clone_end=3 /gb=AA893743 /gi=3020622 /ug=Rn.8002 /len=520
AA8937 43	6125	No Rat Protein Found.		A1092788	6126	P04541	6127	89.32	EST (not recognised)	rc_AA893743 EST197546 Rattus norvegicus cDNA, 3 end /clone=RPLAK14 /clone_end=3 /gb=AA893743 /gi=3020622 /ug=Rn.8002 /len=520
AA8938 21	6128	BAB261 37	6129	XM_01584 6	6130	XP_015 846	6131		Hypothetical proteins	rc_AA893821 EST197624 Rattus norvegicus cDNA, 3 end /clone=RPLAM01 /clone_end=3 /gb=AA893821 /gi=3020700 /ug=Rn.12544 /len=422
AA8938 70	6132	No Rat Protein Found.		M11167	6133	No Human Protein Found.			28S ribosomal RNA gene	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3 end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8938 70	6134	No Rat Protein Found.		M11167	6135	No Human Protein Found.			28S ribosomal RNA gene	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3 end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8938 70	6136	No Rat Protein Found.		M11167	6137	No Human Protein Found.			28S ribosomal RNA gene	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3 end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417

Table 2.

AA8938 70	6138	No Rat Protein Found.	M11167	6139	No Human Protein Found.			28S ribosomal RNA gene	V01270	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3 end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417	
AA8938 71	6140	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA893871 EST197674 Rattus norvegicus cDNA, 3 end /clone=RPLAM87 /clone_end=3 /gb=AA893871 /gi=3020750 /ug=Rn.8155 /len=510		
AA8939 24	6141 64	AAF739 BC013946	6142	Q9Y2Y9	6144	Mus musculus thyroid transcription factor FKLF-2		Mus musculus split hand/foot deleted gene 1	AF251796 NM_00916	rc_AA893924 EST197727 Rattus norvegicus cDNA, 3 end /clone=RPLAN55 /clone_end=3 /gb=AA893924 /gi=3020803 /ug=Rn.7654 /len=428	
AA8939 39	6145 195	NP_033 8	6146	XM_04448 488	XP_04448 488				rc_AA893939 EST197742 Rattus norvegicus cDNA, 3 end /clone=RPLAN70 /clone_end=3 /gb=AA893939 /gi=3020818 /ug=Rn.8472 /len=416		
AA8939 46	6147	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA893946 EST197749 Rattus norvegicus cDNA, 3 end /clone=RPLAN77 /clone_end=3 /gb=AA893946 /gi=3020825 /ug=Rn.4227 /len=421		
AA8939 46	6148	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA893946 EST197749 Rattus norvegicus cDNA, 3 end /clone=RPLAN77 /clone_end=3 /gb=AA893946 /gi=3020825 /ug=Rn.4227 /len=421		
AA8939 70	6149	No Rat Protein Found.		AK024327	6150	No Human Protein Found.		92.88 Homo sapiens cDNA FLJ4265 fs, clone PLACE10022 56	rc_AA893970 EST197773 Rattus norvegicus cDNA, 3 end /clone=RPLAO08 /clone_end=3 /gb=AA893970 /gi=3020849 /ug=Rn.12956 /len=520		
AA8939 80	6151	No Rat Protein Found.		AL050155	6152	No Human Protein Found.		90.59 EST(not recognised)	rc_AA893980 EST197773 Rattus norvegicus cDNA, 3 end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484		

Table 2.

AA8939 80	6153 No Rat Protein Found.	AL050155 6154 No Human Protein Found.	AL050155 6156 No Human Protein Found.	90.59 EST (not recognised)		rc_AA893980 EST197783 Rattus norvegicus cDNA, 3 end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484
AA8939 80	6155 No Rat Protein Found.	AL050155 6156 No Human Protein Found.	AL050155 6158 No Human Protein Found.	90.59 EST (not recognised)		rc_AA893980 EST197783 Rattus norvegicus cDNA, 3 end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484
AA8939 80	6157 No Rat Protein Found.	AL050155 6158 No Human Protein Found.	NM_0307 78	6160 XP_029 757	6161 93.8 Homo Sapiens hypothetical protein PRO1331	rc_AA893984 EST197783 Rattus norvegicus cDNA, 3 end /clone=RPLAO23 /clone_end=3 /gb=AA893984 /gi=3020863 /ug=Rn.21426 /len=443
AA8939 84	6159 No Rat Protein Found.	NM_0307 78				
AA8940 29	6162 No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No Human Protein Found.	EST(not recognised)	rc_AA894029 EST197832 Rattus norvegicus cDNA, 3 end /clone=RPLAO74 /clone_end=3 /gb=AA894029 /gi=3020908 /ug=Rn.13512 /len=498
AA8940 84	6163 No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No Human Protein Found.	EST(not recognised)	rc_AA894084 EST197887 Rattus norvegicus cDNA, 3 end /clone=RSPAQ55 /clone_end=3 /gb=AA894084 /gi=3020963 /ug=Rn.14852 /len=621
AA8940 88	6164 No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No Human Protein Found.	EST (not recognized)	rc_AA894088 EST197891 Rattus norvegicus cDNA, 3 end /clone=RSPAQ62 /clone_end=3 /gb=AA894088 /gi=3020967 /ug=Rn.14853 /len=647
AA8940 99	6165 BAB318 73	6166 NM_0056 06	6167 Q99538	6168 93.75 vacuolar sorting protein 4		rc_AA894099 EST197902 Rattus norvegicus cDNA, 3 end /clone=RSPAQ77 /clone_end=3 /gb=AA894099 /gi=3020978 /ug=Rn.12477 /len=580
AA8941 04	6169 BAB620 16	XM_02760 6	XP_027 606			rc_AA894104 EST197907 Rattus norvegicus cDNA, 3 end /clone=RSPAQ82 /clone_end=3 /gb=AA894104 /gi=3020983 /ug=Rn.3260 /len=350

Table 2.

AA8941 19	6171	No Rat Protein Found.	AFF070615	6172	Q9UN86	6173	95.1	Ras-GTPase activating protein SH3 domain- binding protein 2	rc_AA894119 EST197922 Rattus norvegicus cDNA, 3' end /clone=RSPAR07 /clone_end=3 /gb=AA894119 /gi=3020998 /ug=Rn.22084 /len=362
AA8941 30	6174	AAD22 174	6175	U78095	6176	O43291	6177	83.45	hepatocyte growth factor activator inhibitor type 2
AA8941 31	6178	No Rat Protein Found.	U78082	6179	No	6180	96.85	Mus musculus adult male cerebellum cDNA, RIKEN	rc_AA894131 EST197934 Rattus norvegicus cDNA, 3' end /clone=RSPAR26 /clone_end=3 /gb=AA894131 /gi=3021010 /ug=Rn.12960 /len=494
AA8941 48	6181	AAA407 48	6182	M14642	6183	P06727	6184	59	Rat apolipoprotein A-IV gene (NB double cDNA with ribosomal)
AA8941 60	6185	AAK770 01	6186	U78971	6187	NP_006 550	6188	91.58	src associated in mitosis SAM68
AA8941 74	6189	AAA411 30	6190	BE535809	6191	P13884	6192	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end
AA8941 74	6193	AAA411 30	6194	BE535809	6195	P13804	6196	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end
AA8941 74	6197	AAA411 30	6198	BE535809	6199	P13884	6200	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end

Table 2.

AA8941 74	6201 AAA411 30	6202 BE535809	6203 P13804	6204 P13804	97.06 Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA8941 74	6205 AAA411 30	6206 BE535809	6207 P13804	6208 P13804	97.06 Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA8941 74	6209 AAA411 30	6210 BE535809	6211 P13804	6212 P13804	97.06 Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA8941 89	No Rat Protein Found.	AL137665	6214 Q96RT7	6215 Q96RT7	86.38 EST (not recognized)	rc_AA894189 EST197992 Rattus norvegicus cDNA, 3' end /clone=RSPAS35 /clone_end=3 /gb=AA894189 /gi=3021068 /ug=Rn.3748 /len=644
AA8941 93	No Rat Protein Found.				No Human Protein Found.	EST(not recognised)
AA8941 99	No Rat Protein Found.				No Human Protein Found.	EST(not recognised)
						rc_AA894199 EST198002 Rattus norvegicus cDNA, 3' end /clone=RSPAS58 /clone_end=3 /gb=AA894199 /gi=3021078 /ug=Rn.22765 /len=555

Table 2.

AA8942 07	6218	AAF175 74	6219	AJ006470	6220	O75718	6221		92.65	ESTs, Moderately similar to UBP1_MOUSE	rc_AA894207 EST 198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn_806 /len=630	
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Table 2.

AA8942 07	6222	AAF175 74	6223	AJ006470	6224	O75778	6225	ESTs, Moderately similar to UBP1_MOUSE	AF202453	rc AA894207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn.806 /len=630
								UBIQUITIN- CARBOXYL- TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTER ASE 18) (UBIQUITIN- SPECIFIC PROCESSIN G PROTEASE 18) (DEUBIQUITI NATING ENZYME 18) (43 KDa UBIQUITIN- SPECIFIC PROTEASE) (M.musculus)		

Table 2.

AAB8942 07	6226 AAF175 74	6227 A_006470	6228 O75778	6229 ESTs, Moderately similar to UBP1_MOUSE	92.65 AF202453 rc_AA894207 EST198010 Rattus norvegicus cDNA, 3 end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn.806 /len=630
				UBIQUITIN CARBOXYL- TERMINAL HYDROLASE 18	
				(UBIQUITIN THIOLESTER ASE 18)	
				(UBIQUITIN- SPECIFIC PROCESSIN G PROTEASE 18)	
				(DEUBIQUITI NATING ENZYME 18)	
				(43 KDa UBIQUITIN- SPECIFIC PROTEASE) [M.musculus]	

Table 2.

AA8942 07	6230 74	AAF175	6231	AJ006470	6232	O75718	6233	92.65	ESTs, Moderately similar to UBP1_MOUSE	AF202453	rc_AA894207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /gb=RN.806 /len=630
									UBIQUITIN CARBOXYL- TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTER ASE 18) (UBIQUITIN- SPECIFIC PROCESSIN G PROTEASE 18) (DEUBIQUITI NATING ENZYME 18) (43 KDa UBIQUITIN- SPECIFIC PROTEASE) [M.musculus]		
AA8942 34	6234	No Rat Protein Found.	BGG15448	6235	No Human Protein Found.		92.62	Mus musculus 10 days embryo cDNA, RIKEN		rc_AA894234 EST198037 Rattus norvegicus cDNA, 3' end /clone=RSPAT45 /gb=RN.22767 /len=461	
AA8942 58	6236	P47986	6237	U39318	6238	P47986	6239	97.74 expressed in high- metastatic cells (ehm gene)	NM_01942 7	rc_AA894258 EST198061 Rattus norvegicus cDNA, 3' end /clone=RSPAU08 /gb=RN.6130 /len=672	

Table 2.

AA8942 73	6240	O08557	6241	AK001459	6242	No Human Protein Found.	6243	99.01	Rat endogenous retroviral sequence, 5' and 3' LTR	D90005	rc_AA894273 EST198076 Rattus norvegicus cDNA, 3 end /clone=RSPAU42 /clone_end=3 /gb=AA894273 /gi=3021152 /ug=Rn.6477 /len=573	"NG NG-dimethylarginine dimethylaminohydrolase 1 (EC 3.5.3.18)(Dimethylargininhydrolase 1) (Dimethylarginine dimethylaminohydrolase 1)(DDAH)."'
AA8942 77	6244	BAB256	6245	No human homolog found.		No Human Protein Found.			RIKEN full-length cDNA (mouse)	AK008338	rc_AA894277 EST198080 Rattus norvegicus cDNA, 3 end /clone=RSPAU53 /clone_end=3 /gb=AA894277 /gi=3021156 /ug=Rn.3681 /len=572	
AA8942 77	6246	BAB256	6247	No human homolog found.		No Human Protein Found.			RIKEN full-length cDNA (mouse)	AK008338	rc_AA894277 EST198080 Rattus norvegicus cDNA, 3 end /clone=RSPAU53 /clone_end=3 /gb=AA894277 /gi=3021156 /ug=Rn.3681 /len=572	
AA8942 82	6248	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA894282 EST198085 Rattus norvegicus cDNA, 3 end /clone=RSPAU66 /clone_end=3 /gb=AA894282 /gi=3021161 /ug=Rn.3995 /len=552	
AA8943 04	6249	No Rat Protein Found.		M80899	6250	Q09666	6251	83.44	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA894304 EST198107 Rattus norvegicus cDNA, 3 end /clone=RSPAW33 /clone_end=3 /gb=AA894304 /gi=3021183 /ug=Rn.90 /len=530	
AA8943 05	6252	No Rat Protein Found.		A1221059	6253	No Human Protein Found.					rc_AA894305 EST198108 Rattus norvegicus cDNA, 3 end /clone=RSPAW34 /clone_end=3 /gb=AA894305 /gi=3021184 /ug=Rn.8173 /len=621	
AA8943 16	6254	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA894316 EST198119 Rattus norvegicus cDNA, 3 end /clone=RSPAW50 /clone_end=3 /gb=AA894316 /gi=3021195 /ug=Rn.22923 /len=479	

Table 2.

AA8943 18	6255	No Rat Protein Found.	AB040972	6256	No Human Protein Found.	95.57	Mouse BAC C1tbCJ7 219m7, genomic sequence	rc_AA894318 EST198121 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA894318 /gi=3021197 /ug=Rn.4127 /len=569	
AA8943 30	6257	P15791	6258	AF071569	6259	Q13557	6260	92.9 Ca++/calmodulin-dependent protein kinase II delta subunit	rc_AA894330 EST198133 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA894330 /gi=3021209 /ug=Rn.1222 /len=501
AA8943 40	6261	No Rat Protein Found.						EST(not recognised)	rc_AA894340 EST198143 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA894340 /gi=3021219 /ug=Rn.7359 /len=580
AA8943 45	6262	CAB51 573	6263	L37385	6264	Q15121	6265	92.56 astrocytic phosphoprotein	AJ243949 rc_AA894345 EST198148 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=AA894345 /gi=3021224 /ug=Rn.13530 /len=510
AA8993 20	6266	No Rat Protein Found.	XM_02931 4	6267	XP_029 314		6268	Homo sapiens NADH dehydrogenase	rc_AA899320 UI-R-E0-cz-b-11-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone_end=3 E0-cz-b-11-0-U1 /clone_end=3 /gb=AA899320 /gi=3034674 /ug=Rn.13584 /len=428
AA9001 99	6269	No Rat Protein Found.		AF035840	6270	O95139	6271	89.91 Rattus norvegicus DD6C4-4 mRNA, partial sequence (LOW HOMOLOGY)	AA900199 rc_AA900199 UI-R-A0-bh-h-06-0-U1.s4 Rattus norvegicus cDNA, 3 end /clone_end=3 A0-bh-h-06-0-U1 /clone_end=3 /gb=AA900199 /gi=3035553 /ug=Rn.22932 /len=375

Table 2.

AA9004 13	6272	AAH05 796	6273 0	AW50076	6274 137287		91.94	ESTs. Highly similar to DYR MOUSE DIHYDROFOL- ATE REDUCTASE [M. musculus]	BC005796 rc_AA900413 UI-R-E0-dl-e-12-0-Ul.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-E0-dl-e- 12-0-Ul /clone_end=3 /gb=AA900413 /gi=3035767 /ug=Rn.15056 /len=449
AA9004 76	6275	AAK306 21	6276 U65093	6277 Q99967	6278 AF361476		96.64	transcription factor MRG1	rc_AA900476 UI-R-E0-bw-c-12-0-Ul.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bw-c-12-0-Ul /clone_end=3 /gb=AA900476 /gi=3035830 /ug=Rn.221 /len=463
AA9004 76	6279	AAK306 21	6280 U65093	6281 Q99967	6282 AF361476		96.64	transcription factor MRG1	rc_AA900476 UI-R-E0-bw-c-12-0-Ul.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bw-c-12-0-Ul /clone_end=3 /gb=AA900476 /gi=3035830 /ug=Rn.221 /len=463
AA9005 03	6283	Q63722	6284 NM_0002 14	6285 P78504	6286 NM_01914 7		96	Jagged 1	rc_AA900563 UI-R-E0-dl-b-05-0-Ul.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-E0-dl-b- 05-0-Ul /clone_end=3 /gb=AA900563 /gi=3035857 /ug=Rn.11254 /len=495
AA9005 82	6287	P06238	6288 XM_00692 5	6289 XP_006 925	6290 NM_01248 8		71	Alpha-2- macroglobulin	rc_AA900562 UI-R-E0-dn-b-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-dn-b-10-0-Ul /clone_end=3 /gb=AA900582 /gi=3035936 /ug=Rn.780 /len=495
AA9008 48	6291	P15800	6292 X79683	6293 P55268	6294 NM_01297 4		81	laminin chain beta 2	rc_AA900848 UI-R-E0-dk-a-04-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-dk-a-04-0-Ul /clone_end=3 /gb=AA900848 /gi=3036202 /ug=Rn.850 /len=504
AA9240 84	6295	P35213	6296 No human homolog found.					EST(not recognised)	rc_AA924084 UI-R-A1-du-g-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-du-g-05-0-Ul /clone_end=3 /gb=AA924084 /gi=3071220 /ug=Rn.8653 /len=440

Table 2.

AA9247 72	6297	P37361	6298	No human homolog found.		No Human Protein Found.		Growth inhibitory factor=metallo thionein homolog	S65838	rc_AA924772 UI-R-A1-eb-f-02-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-eb-f-02-0-Ul /clone_end=3 /gb=AA924772 /gi=3071908 /ug=Rn.11325 /len=372	Metallothionein-III (MT-III) (Growth inhibitory factor) (GIF).
AA9249 09	6299	P25094	6300	M94048	6301	Q01453	6302	91.3 Peripheral myelin protein	rc_AA924909 UI-R-A1-eg-b-11-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-eg-b-11-0-Ul /clone_end=3 /gb=AA924909 /gi=3072045 /ug=Rn.1476 /len=557	Integral membrane protein.	
AA9252 46	6303	O35186	6304	X82153	6305	P43235	6306	87.8 Cathepsin K	NM_03156 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-eh-h-06-0-Ul /clone_end=3 /gb=AA925246 /gi=3072382 /ug=Rn.5598 /len=513	Cathepsin K precursor (EC 3.4.22.38).	
AA9252 48	6307	CAA70 364	6308	M91556	6309	Q01118	6310	87.86 sodium channel.	Y09164 rc_AA925248 UI-R-A1-eh-h-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-eh-h-08-0-Ul /clone_end=3 /gb=AA925248 /gi=3072384 /ug=Rn.6032 /len=501		
AA9253 00	6311	AAB035 35	6312	XM_04437 8		XP_044 378		96 Mus musculus MEK kinase 3	U43187 rc_AA925300 UI-R-A1-ek-e-06-0-Ul.s1 Rattus norvegicus cDNA clone UI-R-A1-ek-e-06-0-Ul 3 similar to gi 1223901 gb U43187 MMU43187 Mus musculus MEK kinase 3, mRNA, partial cds, mRNA sequence [Rattus norvegicus]		
AA9254 73	6313	AAF155 38	6314	BG180991	6315	XP_032 919		99.06 cell division cycle 42	AF2056356 rc_AA925473 UI-R-A1-ep-a-02-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-a-02-0-Ul /clone_end=3 /gb=AA925473 /gi=3072609 /ug=Rn.8112 /len=519		
AA9254 73	6316	AAF155 38	6317	BG180991	6318	XP_032 919		99.06 cell division cycle 42	AF2056356 rc_AA925473 UI-R-A1-ep-a-02-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-a-02-0-Ul /clone_end=3 /gb=AA925473 /gi=3072609 /ug=Rn.8112 /len=519		
AA9255 06	6319	P43425	6320	BC014466	6321	O60262	6322	87.25 Guanine nucleotide binding protein (G protein), gamma 7 subunit	rc_AA925506 UI-R-A1-ep-d-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-d-03-0-Ul /clone_end=3 /gb=AA925506 /gi=3072642 /ug=Rn.11335 /len=415	Guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit.	

Table 2.

AA9257 52	6323	Q07969	6324	BCC08406	6325	P16671	6326	84.46	CD36 antigen	NM_03156 1	rc_AA925752 UI-R-A1-ep-f-07-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A1-ep-f-	Integral membrane protein.
										07-0-Ui /clone_end=3 /gb=AA925752 /gi=3072888 /ug=Rn.3790 /len=484		Platelet glycoprotein IV (GPIIIB) (CD36 antigen) (PAS-4 protein) (Fatty acid transport protein) (Fatty acid translocase)(Adipocyte membrane protein).
AA9257 62	6327	P30009	6328	AU141403	6329	P50458	6330	97.14	Myristoylated alanine-rich protein kinase C substrate	rc_AA925762 UI-R-A1-ep-g-08-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A1-ep-g-0-Ui /clone_end=3 /gb=AA925762 /gi=3072898 /ug=Rn.9560 /len=384	Myristoylated alanine-rich C-kinase substrate (MARCKS).	
AA9257 62	6331	P30009	6332	AU141403	6333	P50458	6334	97.14	Myristoylated alanine-rich protein kinase C substrate	rc_AA925762 UI-R-A1-ep-g-08-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A1-ep-g-0-Ui /clone_end=3 /gb=AA925762 /gi=3072898 /ug=Rn.9560 /len=384	Myristoylated alanine-rich C-kinase substrate (MARCKS).	
AA9261 37	6335	No Rat Protein Found.		No human homolog found.		No	No		EST (not recognized)	rc_AA926137 UI-R-A1-eq-g-04-0-Ui.s1 UI-R-A1-eq-g-04-0-Ui 3 similar to gi 2317645 dbj D55636 D55636 Homo sapiens mRNA for smallest subunit of ubiquinol-cytochrome c reductase, complete cds, mRNA sequence [Rattus norv	Catalase (EC 1.11.1.6).	
AA9261 49	6336	P04762	6337	X04076	6338	P04040	6339	86.48	Catalase	NM_01252 0	rc_AA926149 UI-R-A1-eq-h-04-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A1-eq-h-04-0-Ui /clone_end=3 /gb=AA926149 /gi=3073285 /ug=Rn.3001 /len=449	Peroxisomal Catalase (EC 1.11.1.6).
AA9262 42	6340	P19814	6341	BCC08461	6342	O43493	6343	82.29	Rat mRNA for trans-Golgi network integral membrane protein TGN38	rc_AA926242 UI-R-A1-eq-d-09-0-Ui.s1 Rattus norvegicus cDNA, 3' end /clone=Ui-R-A1-eq-d-09-0-Ui /clone_end=3 /gb=AA926242 /gi=30733378 /ug=Rn.11349 /len=394	TRANS-GOLGI NETWORK. Trans-golgi network integral membrane protein TGN38 precursor.	

Table 2.

AA9331 58	6344 312	NP_067 5	6345 5	XM_04239 395	XP_042 395	Mus musculus superkiller virocidic activity 2-like	NM_02133 7	rc_AA933158 UI-R-E0-bp-g-09-0-Ul_s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bp-g-09-0-Ul /clone_end=3 /gb=AA933158 /gi=3087512 /ug=Rn.7122 /len=383	
AA9435 55	6346 P50745	6347 75	NM_0054 6348	Q9UQQ 2	6349 71	Linker of T- cell receptor pathways (Lnk)	NM_03162 1	rc_AA943555 EST199054 Rattus norvegicus cDNA, 3 end /clone=RBRAL44 /clone_end=3 /gb=AA943555 /gi=3103471 /ug=Rn.11228 /len=435	Lymphocyte specific adapter protein Lnk (Signal transduction protein.lnk) (Lymphocyte adapter protein).
AA9436 77	6350 917633 06	AK054981 6351	9243200 0	6352 88.82	Rattus norvegicus Munc13-3 mRNA, complete cds			rc_AA943677 EST199176 Rattus norvegicus cDNA, 3 end /clone=RBRA48 /clone_end=3 /gb=AA943677 /gi=3103593 /ug=Rn.11278 /len=520	
AA9441 77	6353 P07155	6354 AV701053	6355 P09429	6356 100	High mobility group 1 (Hmg1)			rc_AA944177 EST199676 Rattus norvegicus cDNA, 3 end /clone=REMAD31 /clone_end=3 /gb=AA944177 /gi=3104093 /ug=Rn.4121 /len=596	"NUCLEAR AND ALSO CYTOPLAS- MIC, ASSOCIA- TE WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS- GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."
AA9443 24	6357 P26438	6358 M57763	6359 P26438	6360 94.88	ADP- ribosylation factor 6		NM_02415 2	rc_AA9444324 EST199823 Rattus norvegicus cDNA, 3 end /clone=REMAF41 /clone_end=3 /gb=AA9444324 /gi=3104240 /ug=Rn.6993 /len=559	ADP- ribosylation factor 6.

Table 2.

AA9443 97	6361	NP_034 610	6362	BE786120	6363	CAA302 55	6364	96.85	Mus musculus heat shock protein, 86 kDa 1 (Hsp86- 1), mRNA	NM_01048 0	rc_AA944397 EST199896 Rattus norvegicus cDNA, 3 end /clone=REMAG54 /clone_end=3 /gb=AA944397 /gi=3104313 /ug=Rn.5916 /len=542	
AA9443 97	6365	NP_034 610	6366	BE786120	6367	CAA302 55	6368	96.85	Mus musculus heat shock protein, 86 kDa 1 (Hsp86- 1), mRNA	NM_01048 0	rc_AA944397 EST199896 Rattus norvegicus cDNA, 3 end /clone=REMAG54 /clone_end=3 /gb=AA944397 /gi=3104313 /ug=Rn.5916 /len=542	
AA9450 54	6369	P00173	6370	XM_00881 7		1803548 A		88	Cytochrome b5	rc_AA945054 EST200553 Rattus norvegicus cDNA, 3 end /clone=RLIAF82 /clone_end=3 /gb=AA945054 /gi=Rn.1055 /len=565	MICROSO AL MEMBRANE. BOUND TO THE CYTOPLAS MIC SIDE OF THE ENDOPLAS MIC RETICULUM	
AA9450 54	6371	P00173	6372	XM_04847 3		XP_048 473		88	Cytochrome b5	NM_022224 5	rc_AA945054 EST200553 Rattus norvegicus cDNA, 3 end /clone=RLIAF82 /clone_end=3 /gb=AA945054 /gi=Rn.1055 /len=565	MICROSO AL MEMBRANE. BOUND TO THE CYTOPLAS MIC SIDE OF THE ENDOPLAS MIC RETICULUM

Table 2.

AA9455 83	6373	O70351	6374	BC008708	6375	Q9974	6376	87.5	Hydroxacyl- Coenzyme A dehydrogenase, type II	rc_AA945583 EST201082 Rattus norvegicus cDNA, 3 end /clone=RLIAP30 /clone_end=3 /gb=AA945583 /ug=Rn.2700 /len=537	Mitochondrial 3-hydroxyacyl- CoA dehydrogenase type II (EC 1.1.1.35) (Type II HADH)(Endopla- smic reticulum- associated amyloid beta- peptide bindingprotein).
AA9455 83	6377	O70351	6378	BC008708	6379	Q99714	6380	87.5	Hydroxacyl- Coenzyme A dehydrogenase, type II	rc_AA945583 EST201082 Rattus norvegicus cDNA, 3 end /clone=RLIAP30 /clone_end=3 /gb=AA945583 /ug=Rn.2700 /len=537	Mitochondrial 3-hydroxyacyl- CoA dehydrogenase type II (EC 1.1.1.35) (Type II HADH)(Endopla- smic reticulum- associated amyloid beta- peptide bindingprotein).
AA9457 04	6381	BAA956	6382	XM_03125	9				Heat shock protein 40	AB028273 rc_AA945704 EST201203 Rattus norvegicus cDNA, 3 end /clone=RLUAS15 /clone_end=3 /gb=AA945704 /gi=3105620 /ug=Rn.7896 /len=520	
AA9460 40	6383	P56391	6384	AL528775	6385	XP_049	224	94.39	Cytochrome c oxidase subunit Vlb	rc_AA946040 EST201539 Rattus norvegicus cDNA, 3 end /clone=RLUBA46 /clone_end=3 /gb=AA946040 /gi=Rn.6009 /len=519	
AA9460 40	6386	P56391	6387	AL528775	6388	XP_049	224	94.39	Cytochrome c oxidase subunit Vlb	rc_AA946040 EST201539 Rattus norvegicus cDNA, 3 end /clone=RLUBA46 /clone_end=3 /gb=AA946040 /gi=Rn.6009 /len=519	

Table 2.

AA9463 68	6389 Q07969	6390 BC008406	6391 P16671	6392 CD36 antigen 1	84.46 NM_03156	rc_AA946368 EST201867 Rattus norvegicus cDNA, 3' end /clone=RLUBH29 /gi=Rn.3790 /gb=AA946368 /len=750 /len=750	Integral membrane protein.
AA9464 39	6393 P02304	6394 NM_003539	6395 P02304	6396 P02304	88.28 Rat H4 gene for somatic histone H4	rc_AA946439 EST201938 Rattus norvegicus cDNA, 3' end /clone=ROVAR17 /clone_end=3 /gb=AA946439 /gi=Rn.10465 /len=663 /len=663	
AA9465 32	6397 P16970	6398 BC009712	6399 P28288	6400 P28288	93.07 ATP-binding cassette, sub-family D (ALD), member 3	rc_AA946532 EST202031 Rattus norvegicus cDNA, 3' end /clone=RSPA2Z56 /clone_end=3 /gb=AA946532 /gi=1106448 /len=535 /len=535	Integral membrane protein. Peroxisomal membrane protein (PMP70). "ATP-binding cassette, sub-family D, member 3 (70 kDa peroxisomal membrane protein) (PMP70)."
AA9551 67	6401 P30009	6402 AU141403	6403 XP_039759	6404 AU141403	97.14 Mus musculus myristoylated alanine rich protein kinase C substrate	NM_008538 rc_AA955167 UI-R-A1-du-a-08-0-Ul.s1 Rattus norvegicus cDNA, 3' end /clone=Ul-R-A1-du-a-08-0-Ul /clone_end=3 /gb=AA955167 /len=443 /len=443	Myristoylated alanine-rich C-kinase substrate (MARCKS).
AA9554 77	6404 183	6405 U09578	6406 AAH10407	6407 AAH10407	92.08 ESTs, Moderately similar to S78100 MAPK activated protein kinase (EC 2.7.1.-) 2-mouse (fragment) [M.musculus]	rc_AA955477 UI-R-A1-ex-f-01-0-Ul.s1 Rattus norvegicus cDNA, 3' end /clone=Ul-R-A1-ex-f-01-0-Ul /clone_end=3 /gb=AA955477 /len=394 /len=394	

Table 2.

AA9558 08	6408	Q64620	6409	BC006990	6410	O00743	6411	91.08	R.norvegicus mRNA for protein phosphatase V	rc_AA955808 UI-R-E1-fg-h-05-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-E1-fg-h- 05-0-Ui /clone_end=3 /gb=AA955808 /ug=Rn.9573 /len=536	Cytoplasmic . Serine/threonine protein phosphatase 6 (EC 3.1.3.16) (PP6), (Proteinphospha- tase V) (PP-V).
AA9558 08	6412	Q64620	6413	BC006990	6414	O00743	6415	91.08	R.norvegicus mRNA for protein phosphatase V	rc_AA955808 UI-R-E1-fg-h-05-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-E1-fg-h- 05-0-Ui /clone_end=3 /gb=AA955808 /ug=Rn.9573 /len=536	Cytoplasmic . Serine/threonine protein phosphatase 6 (EC 3.1.3.16) (PP6), (Proteinphospha- tase V) (PP-V).
AA9570 03	6416	P50115	6417	X06234	6418	P05109	6419	62	Rattus norvegicus intercellular calcium- binding protein (MRP8) mRNA, complete cds	L18891 rc_AA957003 UI-R-E1-fg-d-09-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-E1-fg-d- 09-0-Ui /clone_end=3 /gb=AA957003 /ug=Rn.9156 /len=369	Calgranulin A (Migration inhibitory factor- related protein 8) (MRP-8)(p8).
AA9576 40	6420	P06766	6421	M13140	6422	P06746	6423	89.55	DNA polymerase beta (Polb)	NM_01714 rc_AA957640 UI-R-E1-fg-b-02-0-Ui.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-E1-fg-b- 02-0-Ui /clone_end=3 /gb=AA957640 /ug=Rn.9346 /len=360	DNA polymerase beta (EC 2.7.7.7).

Table 2.

AA9579 17	6424	P30823	6425	X59155	6426	P30825	6427	Solute carrier family 7 member A1 (amino acid transporter cationic 1)	86.92	rc_AA957917 UI-R-E1-fv-c-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fv-c- 05-0-Ul /clone_end=3 /gb=AA957917 /ug=Rn.9439 /len=402	Integral membrane protein.	High-affinity cationic amino acid transporter- 1 (CAT-1) (CAT1) (SystemY+ basic amino acid transporter) (Ecotropic retroviral leukemarecepto r) (ERR) (Ecotropic retrovirus receptor).
AA9579 17	6428	P30823	6429	X59155	6430	P30825	6431	Solute carrier family 7 member A1 (amino acid transporter cationic 1)	86.92	NM_01311 1 rc_AA957917 UI-R-E1-fv-c-05-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fv-c- 05-0-Ul /clone_end=3 /gb=AA957917 /ug=Rn.9439 /len=402	Integral membrane protein.	High-affinity cationic amino acid transporter- 1 (CAT-1) (CAT1) (SystemY+ basic amino acid transporter) (Ecotropic retroviral leukemarecepto r) (ERR) (Ecotropic retrovirus receptor).
AA9579 61	6432	P18395	6433	AY049788	6434	O75534	6435	94.37	Rat unl mRNA for unr protein with unknown function	rc_AA957961 UI-R-E1-fz-g-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fz-g- 08-0-Ul /clone_end=3 /gb=AA957961 /ug=Rn.3562 /len=462	Cytoplasmic. UNR protein.	
AA9634 47	6436	NP_113 794	6437	BI823499	6438	NP_000 305	6439	95.77	NM_03160 6 phosphatase and tensin homolog	rc_AA963447 UI-R-E1-fz-e-06-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fz-e- 06-0-Ul /clone_end=3 /gb=AA963447 /ug=Rn.22158 /len=456		

Table 2.

AA9636 82	6440	P97570	6441	AL136710	6442	A55575	6443	93.5	Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds	rc_AA963682_U1-R-E1-gg-h-11-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- E1-gg-h-11-0-U1 /clone_end=3 /gb=AA963682 /ug=Rn.236 /len=376
AA9636 82	6444	P97570	6445	AL136710	6446	A55575	6447	93.5	Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds	rc_AA963682_U1-R-E1-gg-h-11-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- E1-gg-h-11-0-U1 /clone_end=3 /gb=AA963682 /ug=Rn.236 /len=376
AA9638 57	6448	P13265	6449	L47125	6450	P51654	6451	89.19	Glypican 3	rc_AA963857_U1-R-E1-gk-a-07-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- E1-gk-a-07-0-U1 /clone_end=3 /gb=AA963857 /ug=Rn.9717 /len=408
AA9638 57	6448	P13265	6449	L47125	6450	P51654	6451	89.19	Glypican 3	rc_AA963857_U1-R-E1-gk-a-07-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- E1-gk-a-07-0-U1 /clone_end=3 /gb=AA963857 /ug=Rn.9717 /len=408
AA9651 54	6452	P42655	6453	BC000179	6454	P42655	6455	99.41	Tyrosine 3- monoxygenase 5. monoxygenase activating protein epsilon polypeptide	NM_03160 3 rc_AA965154_U1-R-C0-hc-h-09-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- C0-hc-h-09-0-U1 /clone_end=3 /gb=AA965154 /ug=Rn.4225 /len=437
AA9976 14	6456	Q64654	6457	BG567904	6458	Q16850	6459	93.38	Cytochrom P450 Lanosterol 14- alpha- demethylase	rc_AA997614_U1-R-C0-hy-g-09-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- C0-hy-g-09-0-U1 /clone_end=3 /gb=AA997614 /ug=Rn.6150 /len=348
AA9976 14	6456	Q64654	6457	BG567904	6458	Q16850	6459	93.38	Cytochrom P450 Lanosterol 14- alpha- demethylase	Cytochrome P450 51 (EC 1.14.14.-) (CYPL1) (P450L1) (Sterol 14- alphademethyla- se) (Lanosterol 14-alpha demethylase) (LDM) (P450- 14DM).

Table 2.

AA9978 06	6460	P15129	6461	X16699	6462	P13594	6463	87.3	Cytochrome P450, subfamily IVB, polypeptide 1	NM_01699 9	rc_AA997806 UI-R-C0-hv-e-0-Ul-s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- C0-hv-e-0-Ul /clone_end=3 /gb=AA997806 /ug=Rn.5721 /len=349	Membrane- bound. Endoplasmic reticulum.
AA9978 86	6464	Q64680	6465	M33388	6466	AAA535 00	6467	76	Rattus norvegicus mRNA for CYP2D4, complete cds	AB008425	rc_AA997886 UI-R-C0-hv-h-10-0-Ul-s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R- C0-hv-h-10-0-Ul /clone_end=3 /gb=AA997886 /ug=Rn.11043 /len=525	Membrane- bound. Endoplasmic reticulum.
A10076 14	6468	No Rat Protein Found.	No	No human homolog found.	No	Human Protein Found.			EST (not recognized)		rc_A1007614 EST202065 Rattus norvegicus cDNA, 3 end /clone=RBRAAS22 /clone_end=3 /gb=A1007614 /ug=Rn.221 /len=522	
A10078 24	6469	CAA49 904	6470	XM_00169 1	XP_001 691	XP_001 691		91	R. norvegicus mRNA for Miss4 protein	X70496	rc_A1007824 EST202275 Rattus norvegicus cDNA, 3 end /clone=RBRAV39 /clone_end=3 /gb=A1007824 /ug=Rn.11302 /len=569	
A10078 24	6471	CAA49 904	6472	XM_00169 1	XP_001 691			91	R. norvegicus mRNA for Miss4 protein	X70496	rc_A1007824 EST202275 Rattus norvegicus cDNA, 3 end /clone=RBRAV39 /clone_end=3 /gb=A1007824 /ug=Rn.11302 /len=569	
A10078 35	6473	O08875	6474	AB002367	6475	O15075	6476	86	Rattus norvegicus protein serine/threonine kinase CPG16 (cpg16)	U78857	rc_A1007835 EST202286 Rattus norvegicus cDNA, 3 end /clone=RBRAV51 /clone_end=3 /gb=A1007835 /ug=Rn.11405 /len=540	Serine/threonine protein kinase DCAMKL1 (EC 2.7.1.-) (Doublecortin- like and CAM kinase-like 1) (Calcium/calmo- dulin-dependent protein kinase type I-like CPG16).

Table 2.

A10081 31	6477	P17708	6478	BC0000171	6479	P17707	6480	97	S-adenosylmethionine decarboxylase	M34464	rc_A1008131 EST202582 Rattus norvegicus cDNA, 3 end /clone=REMAT31 /clone_end=3 /gb=A1008131 /ug=Rn.1909 /len=496	S-adenosylmethionine decarboxylase proenzyme (EC 4.1.1.50) (AdoMetDC)(SamDC) [Contains: S-adenosylmethionine decarboxylase alpha chain; S-adenosylmethionine decarboxylase beta chain].
A10081 31	6481	P17708	6482	BC0000171	6483	P17707	6484	97	S-adenosylmethionine decarboxylase	M34464	rc_A1008131 EST202582 Rattus norvegicus cDNA, 3 end /clone=REMAT31 /clone_end=3 /gb=A1008131 /ug=Rn.1909 /len=496	S-adenosylmethionine decarboxylase proenzyme (EC 4.1.1.50) (AdoMetDC)(SamDC) [Contains: S-adenosylmethionine decarboxylase alpha chain; S-adenosylmethionine decarboxylase beta chain].
A10084 23	6485	AAB939 32	6486	AF077038	6487	AAD277 71	6488	91	Rattus norvegicus unc-50 related protein	U96638	rc_A1008423 EST202874 Rattus norvegicus cDNA, 3 end /clone=REMAX14 /clone_end=3 /gb=A1008423 /ug=Rn.3446 /len=512	

Table 2.

A10086 38	6489	P70490	6490	U56516	6491	Q08431	6492	85.71	O-acetyltransferase Milk fat globule membrane protein	rc_A1008638 EST203089 Rattus norvegicus cDNA, 3 end /clone=REMBB06 /clone_end=3 /gb=A1008638 /ug=Rn.3742 /len=607	PERIPHERAL MEMBRANE PROTEIN.	Lactadherin precursor (Milk fat globule-EGF factor 8) (MFG-E8) (O-acetyl GD3 ganglioside synthase) (AGS) (MFGM).	
A10086 39	6493	O70437	6494	N74105	6495	XP_030 100	90.38	Rattus norvegicus MAD homolog 4	NM_01927 5	rc_A1008639 EST203090 Rattus norvegicus cDNA, 3 end /clone=REMBB09 /clone_end=3 /gb=A1008639 /ug=Rn.9774 /len=496	IN THE M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH R- SMAD .	Mothers against decapentaplegic homolog 4 (SMAD 4) (Mothers againstDPP homolog 4) (Smad4).	
A10088 36	6496	P52925	6497	Z17240	6498	P26583	6499	91.27	high mobility group protein 2	NM_01718 7	rc_A1008836 EST203287 Rattus norvegicus cDNA, 3 end /clone=REMBE03 /clone_end=3 /gb=A1008836 /ug=Rn.2874 /len=460	Nuclear. High mobility group protein 2 (HMG-2).	
A10088 52	6500	P20001	6501	AA076035	6502	P04720	6503	98.36	Eukaryotic translation elongation factor 1 alpha 2	rc_A1008852 EST203303 Rattus norvegicus cDNA, 3 end /clone=REMBE33 /clone_end=3 /gb=A1008852 /ug=Rn.965 /len=531	ANCHORED AT THE ENDOPLAS MIC RETICULUM BY PHOSPHATI DYLINOSTO L VIA ETHANOLA MINE BRIDGING.	Elongation factor 1-alpha 1 (EF-1-alpha-1) (Elongation factor 1 A- 1)(EF1A-1) (Elongation factor Tu) (EF- Tu).	
A10088 88	6504	P01041	6505	AW45114 5	6506	P04080	6507	89.36	Cystatin beta	rc_A1008888 EST203339 Rattus norvegicus cDNA, 3 end /clone=REMBE86 /clone_end=3 /gb=A1008888 /ug=Rn.1233 /len=528	Cytoplasmic.	Cystatin B (Liver thiol proteinase inhibitor) (Stefin B) (Cystatinbeta).	

Table 2.

A10088	6508	P01041	6509	AW45114 5	6510	P04080	6511	89.36	Cystatin beta		rc_A1008888 EST203339 Rattus norvegicus cDNA, 3 end /clone=REM86 /len=528 /gb=A1008888 /ug=Rn.1233 /len=528	Cytoplasmic. Cystatin B (Liver thiol proteinase inhibitor) (Stefin B) (Cystatinbeta).
A10091	6512	No Rat Protein Found.		AW97835 6	6513	No Human Protein Found.		84.4	M_musculus mRNA for M31 protein, exon 9	X95399	rc_A1009141 EST203592 Rattus norvegicus cDNA, 3 end /clone=REM8J39 /clone_end=3 /gb=A1009141 /ug=Rn.221 /len=608	
A10091	6514	No Rat Protein Found.		AJ249980	6515	CAB965 37	6516	86	EST (human hypothetical protein)		rc_A1009147 EST203598 Rattus norvegicus cDNA, 3 end /clone=REM8J52 /clone_end=3 /gb=A1009147 /ug=Rn.221 /len=429	
A10092	6517	P15791 68	6518	AF071569	6519	Q13557	6520	92.9	Ca++/calmodu lin-dependent protein kinase II, delta subunit		rc_A1009268 EST203719 Rattus norvegicus cDNA, 3 end /clone=RHEAB12 /clone_end=3 /gb=A1009268 /ug=Rn.122 /len=382	Calcium/calmodu lin-dependent protein kinase type II delta chain (EC2.7.1.123) (CaM-kinase II delta subunit)(CaMK- II delta subunit).
A10093	6521	AAH02 163	6522	AF020352	6523	O43920	6524	85.15	Mus musculus, Similar to NADH dehydrogenas e	BC002163	rc_A1009390 EST203941 Rattus norvegicus cDNA, 3 end /clone=RHEBJ41 /clone_end=3 /gb=A1009390 /ug=Rn.3392 /len=472	
A10094	6525	P15473 05							NM_01258 8	rc_A1009405 EST203856 Rattus norvegicus cDNA, 3 end /clone=RHEBJ56 /clone_end=3 /gb=A1009405 /ug=Rn.1710 /len=501	Secreted. Insulin-like growth factor binding protein 3 precursor (IGFBP-3)(IBP- 3) (IGF-binding protein 3).	

Table 2.

A10098 01	6528	P30904	6529	NM_0024 15	6530	P14174	6531	90	Rattus norvegicus	NM_03105 1	rc_A1009801 EST204252 Rattus norvegicus cDNA, 3 end /clone=RLUBO63 /clone_end=3 /gb=A1009801 /ug=Rn.2661 /len=635	Macrophage migration inhibitory factor (MIF) (Phenylpyruvate tautomerase) (Glutathione- binding 13 kDa protein).
A10102 93	6532	B39066	BC003133	6533	P46379	6534	100	Rattus norvegicus	rc_A1010293 EST204744 Rattus norvegicus cDNA, 3 end /clone=RLUBW57 /clone_end=3 /gb=A1010293 /ug=Rn.221 /len=546			
A10102 93	6535	BAA766 07	6536	BC003133	6537	P46379	6538	100	Rattus norvegicus	AB018791 rc_A1010293 EST204744 Rattus norvegicus cDNA, 3 end /clone=RLUBW57 /clone_end=3 /gb=A1010293 /ug=Rn.221 /len=546		
A10104 53	6539	P17475	6540	XM_02835 8	6541	XP_028 358	6542		Alpha-1- protease inhibitor	NM_02251 9	rc_A1010453 EST204904 Rattus norvegicus cDNA, 3 end /clone=RLUBZ64 /clone_end=3 /gb=A1010453 /ug=Rn.1419 /len=612	Alpha-1- antiproteinase precursor (Alpha-1- antitrypsin) (Alpha-1- proteinase inhibitor).
A10104 80	6543	P04636	6544	NM_0059 18	6545	P40926	6546	89	Rattus norvegicus	NM_03115 1	rc_A1010480 EST204931 Rattus norvegicus cDNA, 3 end /clone=RLUBZ96 /clone_end=3 /gb=A1010480 /ug=Rn.1011 /len=590	Mitochondrial matrix. "Malate dehydrogenase, mitochondrial precursor (EC 1.1.1.37)."
A10104 80	6547	P04636	6548	NM_0059 18	6549	P40926	6550	89	Rattus norvegicus	NM_03115 1	rc_A1010480 EST204931 Rattus norvegicus cDNA, 3 end /clone=RLUBZ96 /clone_end=3 /gb=A1010480 /ug=Rn.1011 /len=590	Mitochondrial matrix. "Malate dehydrogenase, mitochondrial precursor (EC 1.1.1.37)."

Table 2.

A10105 80	6551	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus DNA repair protein (XRCC1) gene	L34078	rc_A1010580 EST205031 Rattus norvegicus cDNA, 3 end /clone=RMUAO68 /clone_end=3 /gb=A1010580 /ug=Rn.13632 /len=377		
A10105 81	6552	P11030	6553	BC000920	6554	NZHU	6555	87.38 Diazepam binding inhibitor (GABA receptor modulator, acyl-Coenzyme A binding protein)	rc_A1010581 EST205032 Rattus norvegicus cDNA, 3 end /clone=RMUAO69 /clone_end=3 /gb=A1010581 /ug=Rn.3285 /len=543
A10105 81	6556	P11030	6557	BC000920	6558	NZHU	6559	87.38 Diazepam binding inhibitor (GABA receptor modulator, acyl-Coenzyme A binding protein)	NM_03185 rc_A1010581 EST205032 Rattus norvegicus cDNA, 3 end /clone=RMUAO69 /clone_end=3 /gb=A1010581 /ug=Rn.3285 /len=543
A10114 98	6560	BAA241	6561	BC018953	6562	XP_008 253	6563	95.67 BAF60b	AB003505 rc_A1011498 EST205049 Rattus norvegicus cDNA, 3 end /clone=ROVAV73 /clone_end=3 /gb=A1011498 /ug=Rn.3053 /len=644
A10115 56	6564	No Rat Protein Found.	X03205	6565	No Human Protein Found.			18S rRNA gene	M11188 rc_A1011556 EST206007 Rattus norvegicus cDNA, 3 end /clone=ROVAV63 /clone_end=3 /gb=A1011556 /ug=Rn.17740 /len=405
A10119 98	6566	P97554	6567	NM_0123	6568	Q9UBS3	6569	90.25 microvascular endothelial differentiation gene 1	NM_01269 rc_A1011998 EST206449 Rattus norvegicus cDNA, 3 end /clone=RPLAR43 /clone_end=3 /gb=A1011998 /ug=Rn.11296 /len=495

Table 2.

A10120 30	6570	P08494	6571	NM_0009 00	6572	P08493	6573	69	Matrix Gla protein (Mgp) 2	NM_01286 cDNA, 3 end /clone=RPLAR80 /clone_end=3 /gb=A1012030 /ug=Rn.2379 /len=549	Extracellular.	Matrix Gla- protein precursor (MGP).
A10121 83	6574	O09018	6575	BC014664	6576	P24468	6577	95.03	ovalbumin upstream promoter/beta nuclear receptor rCOUPb	AF003944 rc_A1012183 EST200634 Rattus norvegicus cDNA, 3 end /clone=RPLAT70 /clone_end=3 /gb=A1012183 /ug=Rn.17815 /len=547	Nuclear.	COUP transcription factor 2 (COUP- TF2) (COUP-TF II) (Apolipoprotein A regulatory protein-1) (ARP- 1) (Ovalbumin upstream promoter beta nuclear receptor (rCOUPB)).
A10122 75	6578	g31010 0								rc_A1012275 EST2006726 Rattus norvegicus cDNA, 3 end /clone=RPLAU85 /clone_end=3 /gb=A1012275 /ug=Rn.4099 /len=686		
A10125 89	6580	P04906	6581	U30897	6582	P09211	6583	85	Rattus norvegicus developmental ly regulated protein mRNA, complete cds	rc_A1012275 EST2006726 Rattus norvegicus cDNA, 3 end /clone=RPLAU85 /clone_end=3 /gb=A1012275 /ug=Rn.4099 /len=686		Glutathione S- transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pi).
A10125 89	6584	P04906	6585	U30897	6586	P09211	6587	85	Glutathione S- transferase, pi 2	rc_A1012589 EST2007040 Rattus norvegicus cDNA, 3 end /clone=RPLAZ28 /clone_end=3 /gb=A1012589 /ug=Rn.5985 /len=660		Glutathione S- transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pi).
A10126 04	6588	Q07205	6589	NM_0019 69	6590	P55010	6591	80	eukaryotic initiation factor 5 (eIF-5)	NM_02007 rc_A1012604 EST2007055 Rattus norvegicus cDNA, 3 end /clone=RPLAZ45 /clone_end=3 /gb=A1012604 /ug=Rn.3506 /len=614		Eukaryotic translation initiation factor 5 (eIF-5).

Table 2.

A10131 94	6592	Q07205	6593	NM_0019 69	6594	P55010	6595	80	Eukaryotic initiation factor 5 (eIF-5)	NM_02007 5	rc_A1013194 EST207869 Rattus norvegicus cDNA, 3' end /clone=RSPBH90 /clone_end=3 /gb=A1013194 /ug=Rn.3506 /len=464	Eukaryotic initiation factor 5 (eIF-5).
A10132 97	6596	NP_035 017	6597	BC005270	6598	O43181	6599	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufs4	NM_01088 7	rc_A1013297 EST207972 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=A1013297 /ug=Rn.6543 /len=487	
A10132 97	6600	NP_035 017	6601	BC005270	6602	O43181	6603	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufs4	NM_01088 7	rc_A1013297 EST207972 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=A1013297 /ug=Rn.6543 /len=487	
A10132 97	6604	NP_035 017	6605	BC005270	6606	O43181	6607	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufs4	NM_01088 7	rc_A1013297 EST207972 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=A1013297 /ug=Rn.6543 /len=487	
A10132 97	6608	NP_035 017	6609	BC005270	6610	O43181	6611	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufs4	NM_01088 7	rc_A1013297 EST207972 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=A1013297 /ug=Rn.6543 /len=487	
A10134 72	6612	CAA69 106	6613	NM_0037 13	6614	NP_003 704	6615	91	R.norvegicus mRNA for ER transmembrane protein	Y07783	rc_A1013472 EST208147 Rattus norvegicus cDNA, 3' end /clone=RSPBL95 /clone_end=3 /gb=A013472 /ug=Rn.7178 /len=526	

Table 2.

AI0140 87	6616	P02383	6617	AW02250 6	6618	XP_015 318			89.08	ribosomal protein S26	X02414	rc_AI014087 EST207642 Rattus norvegicus cDNA, 3 end /clone=RSPBE69 /clone_end=3 /gb=AI014087 /ug=Rn.1059 /len=517	40S ribosomal protein S26.
AI0141 35	6619	No Rat Protein Found.	L22009	6620	P31943	6621	100	CDK103 mRNA			Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3 end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410	
AI0141 35	6622	No Rat Protein Found.	L22009	6623	P31943	6624	100	Rattus norvegicus CDK103 mRNA			Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3 end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410	
AI0141 35	6625	No Rat Protein Found.	L22009	6626	P31943	6627	100	CDK103 mRNA			Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3 end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410	
AI0141 35	6628	No Rat Protein Found.	L22009	6629	P31943	6630	100	Rattus norvegicus CDK103 mRNA			Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3 end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410	

Table 2.

A10141 63	6631	P20695	6632	AV733799	6633	O00458	6634	93.69	interferon-related developmental regulator 1	NM_01924 2	rc_A1014163 EST207718 Rattus norvegicus cDNA, 3 end /clone=RSPBF82 /clone_end=3 /gb=A1014163 /ug=Rn.3723 /len=550	"PRESENTS A NGF-DEPENDENT PATTERN OF INTRACELLULAR LOCALIZATION. ON WITH INCREASING AMOUNTS OF NGF AND BESIDES BEING EXPRESSED IN THE CYTOPLASM, IT IS ALSO LOCALIZED IN THE PLASMA MEMBRANE (INNER SIDE) AT"	Interferon-related developmental regulator 1 (Nerve growth factor-inducible protein PC4) (IRPR).
A10141 69	6635	No Rat Protein Found.	AW60196 3							U30789	rc_A1014169 EST207724 Rattus norvegicus cDNA, 3 end /clone=RSPBF88 /clone_end=3 /gb=A1014169 /ug=Rn.2758 /len=553		

Table 2.

A10298 05	6637	P07155	6638	AV701053	6639	P09429	6640	100	High mobility group 1	"rc_A1029805 UI-R-CO-jn-b-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-jn-b-01-0-UI /clone_end=3 /gb=A1029805 /ug=Rn.4121 /len=367"	"NUCLEAR CYTOPLAS MIC, ASSOCIATE D WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphotericin (Heparin-binding protein p30).
A10298 05	6641	P07155	6642	AV701053	6643	P09429	6644	100	High mobility group 1	"rc_A1029805 UI-R-CO-jn-b-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-jn-b-01-0-UI /clone_end=3 /gb=A1029805 /ug=Rn.4121 /len=367"	"NUCLEAR CYTOPLAS MIC, ASSOCIATE D WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphotericin (Heparin-binding protein p30).

Table 2.

A10300	6645	P41777	6646	XM_00591	XP_005 918	42	Rattus norvegicus	nucleolar phosphoprotein p130 (Nopp140)	NM_02286	rc_A1030089 UI-R-C0-it-h-04-0-UI.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-C0-it-h- 04-0-UI /clone_end=3 /gb=A1030089 /ug=Rn.9517 /len=508	SHUTTLES ON CURVILINEA R TRACKS BETWEEN NUCLEOLU S AND CYTOPLAS M. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLU S ACROSS THE NUCLEOPLA SM TO A LIMITED NUMBER OF NUCLEAR PORE COMPL	Nucleolar phosphoprotein p130 (Nucleolar protein) (140 kDa phosphoprotein) (Nopp140) (Nucleolar and coiled- body/phosphoprotein 1).
A10301	6647	P27867	6648	L29008	6649	Q00796	6650	82	Sorbitol dehydrogenase	rc_A1030175 UI-R-C0-it-c-09-0-UI.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-C0-it-c- 09-0-UI /clone_end=3 /gb=A1030175 /ug=Rn.11334 /len=505	Sorbitol dehydrogenase (EC 1.1.1.14) (L- iditol 2- dehydrogenase)	
A10301	6651	P27867	6652	L29008	6653	Q00796	6654	82	Sorbitol dehydrogenase	rc_A1030175 UI-R-C0-it-c-09-0-UI.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-C0-it-c- 09-0-UI /clone_end=3 /gb=A1030175 /ug=Rn.11334 /len=505	Sorbitol dehydrogenase (EC 1.1.1.14) (L- iditol 2- dehydrogenase)	
A10302	6655	P23363	6656	X60201	6657	P23560	6658	92.86	Brain derived neurotrophic factor	NM_01251 3	rc_A1030286 UI-R-C0-jb-c-02-0-UI.s1 Rattus nonvegicus cDNA, 3 end /clone=UI-R-C0-jb-c- 02-0-UI /clone_end=3 /gb=A1030286 /ug=Rn.11256 /len=367	Secreted. Brain-derived neurotrophic factor precursor (BDNF).

Table 2.

A10436 31	6659	Q63764	6660	D88674	6661	O14977	6662	95.34	Ornithine decarboxylase inhibitor	NM_02258 nonvegicus cDNA, 3 end /clone=U1-R-C0-j1-b- 09-0-U1 /clone_end=3 /gb=A1043631 /ug=Rn.6290 /len=531	"Ornithine decarboxylase antizyme inhibitor."
A10436 31	6663	Q63764	6664	D88674	6665	O14977	6666	95.34	Ornithine decarboxylase inhibitor	NM_02258 nonvegicus cDNA, 3 end /clone=U1-R-C0-j1-b- 09-0-U1 /clone_end=3 /gb=A1043631 /ug=Rn.6290 /len=531	"Ornithine decarboxylase antizyme inhibitor."
A10447 16	6667	P47971	6668	U61849	6669	Q15818	6670	90.86	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds	rc_A1044716_U1-R-C1-ki-a-09-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R-C1-ki-a- 09-0-U1 /clone_end=3 /gb=A1044716 /ug=Rn.10233 /len=363	"Neuronal pentraxin I precursor (NP-1) (NP1) (47 kDa taipoxin- binding protein).
A10449 00	6671	P18163	6672	D10040	6673	P33121	6674	85	Acyl CoA synthetase, long chain	rc_A1044900_U1-R-C1-kk-c-05-0-U1.s1 Rattus nonvegicus cDNA, 3 end /clone=U1-R-C1-kk-c 05-0-U1 /clone_end=3 /gb=A1044900 /ug=Rn.6215 /len=388	"MICROSOFT Long-chain- fatty-acid-CoA ligase, liver isozyme (EC 6.2.1.3)(Long- chain acyl-CoA synthetase 2) (LACS 2)." "
A10449 00	6675	P18163	6676	D10040	6677	P33121	6678	85	Acyl CoA synthetase, long chain	rc_A1044900_U1-R-C1-kk-c-05-0-U1.s1 Rattus nonvegicus cDNA, 3 end /clone=U1-R-C1-kk-c 05-0-U1 /clone_end=3 /gb=A1044900 /ug=Rn.6215 /len=388	"MICROSOFT Long-chain- fatty-acid-CoA ligase, liver isozyme (EC 6.2.1.3)(Long- chain acyl-CoA synthetase 2) (LACS 2)." "
A10592 91	6679	P12368	6680	X14968	6681	P138861	6682	87	Protein kinase, cAMP dependent regulatory, type II alpha	rc_A1059291_U1-R-C1-lb-h-03-0-U1.s1 Rattus nonvegicus cDNA, 3 end /clone=U1-R-C1-lb-h- 03-0-U1 /clone_end=3 /gb=A1059291 /ug=Rn.9742 /len=384	cAMP- dependent protein kinase type II-alpha regulatory chain(Fragment)

Table 2.

A10701 08	6683 AAH03 446	6684 NM_0070 70	6685 Q92990	6686 92.13	FKBP- associated protein	BC003446	rc_A1070108 UI-R-Y0-lu-a-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-lu-a- 09-0-UI /clone_end=3 /gb=A1070108 /ug=Rn.16863 /len=529	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
A10702 95	6687 P48317	6688 M60974	6689 P24522	6690 95	DNA-damage- inducible transcript 1		rc_A1070295 UI-R-Y0-lt-d-01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-lt-d- 01-0-UI /clone_end=3 /gb=A1070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
A10702 95	6691 P48317	6692 M60974	6693 P24522	6694 95	DNA-damage- inducible transcript 1		rc_A1070295 UI-R-Y0-lt-d-01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-lt-d- 01-0-UI /clone_end=3 /gb=A1070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
A10702 95	6695 P48317	6696 M60974	6697 P24522	6698 95	DNA-damage- inducible transcript 1		rc_A1070295 UI-R-Y0-lt-d-01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-lt-d- 01-0-UI /clone_end=3 /gb=A1070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
A10702 95	6699 P48317	6700 M60974	6701 P24522	6702 95	DNA-damage- inducible transcript 1		rc_A1070295 UI-R-Y0-lt-d-01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-lt-d- 01-0-UI /clone_end=3 /gb=A1070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).

Table 2.

A10705 21	6703	P18395	6704	AY049788	6705	O75534	6706	94.37 Rat unr mRNA for unr protein with unknown function
A10705 21	6707	P18395	6708	AY049788	6709	O75534	6710	94.37 Rat unr mRNA for unr protein with unknown function
A10707 21	6711	Q62997	6712	AF042080	6713	P56159	6714	90.19 Glial cell line- derived neurotrophic factor receptor alpha
A10709 67	6715	P49911	6716	X75090	6717	P39687	6718	88 Acid nuclear phosphoprotein n 32 (leucine rich)
A10709 67	6719	P49911	6720	X75090	6721	P39687	6722	88 Acid nuclear phosphoprotein n 32 (leucine rich)
								rc_A1070521 UI-R-Y0-lv-f-09-0-Ul.s1 Rattus nonvegicus cDNA, 3 end /clone=Ul-R-Y0-lv-f- 09-0-Ul /clone_end=3 /gb=A1070521 /ug=Rn.3562 /len=561
								rc_A1070521 UI-R-Y0-lv-f-09-0-Ul.s1 Rattus nonvegicus cDNA, 3 end /clone=Ul-R-Y0-lv-f- 09-0-Ul /clone_end=3 /gb=A1070521 /ug=Rn.3562 /len=561
								Cytoplasmic. UNR protein.
								Cytoplasmic. UNR protein.
								Attached to the membrane by a GPI- anchor. (GDNF receptor alpha precursor (GDNFR-alpha) (TGF-beta relatedneurotrop- hic factor receptor 1) (RET ligand 1).
								NM_01295 Rattus norvegicus cDNA, 3 end /clone=Ul-R- C2-mx-h-07-0-Ul /clone_end=3 /gb=A1070721 /ug=Rn.6281 /len=366
								rc_A1070721 UI-R-C2-mx-h-07-0-Ul.s1
								Nuclear. Leucine-rich acidic nuclear protein.
								rc_A1070967 UI-R-C2-na-d-08-0-Ul.s1 Rattus nonvegicus cDNA, 3 end /clone=Ul-R-C2-na- d-08-0-Ul /clone_end=3 /gb=A1070967 /ug=Rn.10123 /len=448
								rc_A1070967 UI-R-C2-na-d-08-0-Ul.s1 Rattus nonvegicus cDNA, 3 end /clone=Ul-R-C2-na- d-08-0-Ul /clone_end=3 /gb=A1070967 /ug=Rn.10123 /len=448
								Nuclear. Leucine-rich acidic nuclear protein.

Table 2.

AI0712 99	6723	O08876	6724	S81439	6725	Q13118	6726	87.11	TGF β inducible early growth response	rc_AI071299 UI-R-C1-ko-d-03-0-Ui-s2 Rattus norvegicus cDNA, 3 end /clone=Ui-R-C1-ko- d-03-0-Ui /clone_end=3 /gb=AI071299 /ug=Rn.2398 /len=465	Nuclear .	Transforming growth factor- beta-inducible early growth responseprotein 1 (TGFB- inducible early growth response protein 1) (TIEG- 1)(Kruppel-like factor 10) (Zinc finger transcription factor homologCPG	
AI0714 35	6727	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	Rattus norvegicus Sacm2/RT1- A intergenic region, haplotype RT1n and partial RT1-A gene for MHC Class I antigen	AI071435	rc_AI071435 UI-R-C1-ku-a-04-0-Ui-s2 Rattus norvegicus cDNA, 3 end /clone=Ui-R-C1-ku- a-04-0-Ui /clone_end=3 /gb=AI071435 /ug=Rn.2/1933 /len=446					
AI0729 43	6728	P47971	6729	U61849	6730	Q15818	6731	90.86	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds	rc_AI072943 UI-R-Y0-mc-h-09-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R- Y0-mc-h-09-0-Ui /clone_end=3 /gb=AI072943 /ug=Rn.10233 /len=364	SECRETOR Y VESICLES	Neuronal pentraxin I precursor (NP-I) (NP-I) (47 kDa taipoxin- bindingprotein).	
AI0731 64	6732	P56603	6733	NM_00448 66	6734	O15126	6735	43	SCAMP	L22079	rc_AI073164 UI-R-Y0-mi-e-03-0-Ui-s1 Rattus norvegicus cDNA, 3 end /clone=Ui-R-Y0-mi-e 03-0-Ui /clone_end=3 /gb=AI073164 /ug=Rn.20374 /len=447	Integral membrane protein.	Secretory carrier- associated membrane protein 1 (SCAMP 37).

Table 2.

A10732 04	6736	P42655	6737	BC000179	6738	P42655	6739	99.41	Tyrosine 3-monoxygenase/tryptophan 5-monoxygenase activating protein, epsilon polypeptide	rc_A1073204 UI-R-Y0-ix-a-09-0-UJ-s1 Rattus norvegicus cDNA, 3' end /clone_end=3 /gb=A1073204 /ug=Rn.4225 /len=356	Cytoplasmic.
A11011 03	6740	Q64357	6741	AF35372	6742	P19065	6743	98	Vesicle-associated membrane protein (synaptobrevin 2)	rc_A101103 EST210392 Rattus norvegicus cDNA, 3' end /clone=RBRBF53 /clone_end=3 /gb=A1101103 /gi=3706076 /ug=Rn.11289 /len=364	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.
A11013 20	6744	P97607	6745	AF029779	6746	Q9Y219	6747	92.08	Jagged2	AF038572 rc_A1101320 EST210609 Rattus norvegicus cDNA, 3' end /clone=RBRBL38 /clone_end=3 /gb=A1101320 /gi=22459 /len=616	Jagged 2 (Jagged2) (Fragment).
A11017 43	6748	NP_077368	6749	NM_000414	6750	P51659	6751	81	peroxisomal multifunctional 2 enzyme type II	NM_02439 rc_A1101743 EST211032 Rattus norvegicus cDNA, 3' end /clone=RBRBU51 /clone_end=3 /gb=A1101743 /gi=3706605 /ug=Rn.2082 /len=512	Type I membrane protein.
A11020 31	6752	O08839	6753	U68485	6754	Q99688	6755	93.72	Rattus norvegicus mRNA for amphiphysin, amph2	rc_A1102031 EST211320 Rattus norvegicus cDNA, 3' end /clone=RBRBY15 /clone_end=3 /gb=A1102031 /gi=3706866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic.

Table 2.

A11020 31	6756 O08839	6757 U68485	6758 Q99688	6759 Rattus norvegicus mRNA for amphiphysin, amph2	rc_A1102031 EST211320 Rattus norvegicus cDNA, 3 end /clone=RBRBY15 /clone_end=3 /gb=A1102031 /gi=37068866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic . Myc box dependent interacting protein 1 (Bridging integrator 1)(Amphiphysin- like protein) (Amphiphysin II).
A11020 31	6760 O08839	6761 U68485	6762 Q99688	6763 Rattus norvegicus mRNA for amphiphysin, amph2	rc_A1102031 EST211320 Rattus norvegicus cDNA, 3 end /clone=RBRBY15 /clone_end=3 /gb=A1102031 /gi=37068866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic . Myc box dependent interacting protein 1 (Bridging integrator 1)(Amphiphysin- like protein) (Amphiphysin II).
A11020 31	6764 O08839	6765 U68485	6766 Q99688	6767 Rattus norvegicus mRNA for amphiphysin, amph2	rc_A1102031 EST211320 Rattus norvegicus cDNA, 3 end /clone=RBRBY15 /clone_end=3 /gb=A1102031 /gi=37068866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic . Myc box dependent interacting protein 1 (Bridging integrator 1)(Amphiphysin- like protein) (Amphiphysin II).
A11020 44	No Rat Protein Found.	L22009	6769 P31943	6770 Rattus norvegicus CDK109 mRNA (mitochondria)	rc_A1102044 EST211333 Rattus norvegicus cDNA, 3 end /clone=RBRBY28 /clone_end=3 /gb=A1102044 /gi=3706879 /ug=Rn.4229 /len=549	
A11021 03	6771 BAA189 69	6772 A1205643	6773 BAA216 61	6774 92.91 Phosphatidyl ositol 4-kinase	rc_A1102103 EST211392 Rattus norvegicus cDNA, 3 end /clone=RBRBY91 /clone_end=3 /gb=A1102103 /gi=37068936 /ug=Rn.14991 /len=611	
A11021 03	6775 BAA189 69	6776 A1205643	6777 BAA216 61	6778 92.91 Phosphatidyl ositol 4-kinase	rc_A1102103 EST211392 Rattus norvegicus cDNA, 3 end /clone=RBRBY91 /clone_end=3 /gb=A1102103 /gi=37068936 /ug=Rn.14991 /len=611	

Table 2.

								Metallothionein-I (MT-I).
A11025 62	6779	P02803	6780	BG260238	6781	SMHU1 E		rc_A1102562 EST211851 Rattus norvegicus cDNA, 3 end /clone=REMPP28 /clone_end=3 /gb=A1102562 /gi=3707306 /ug=Rn.2714 /len=405
A11026 20	6782	AAD25 049	6783	AA834992	6784	Q13233	6785	93.1 metallothionei ni-(mt-1)
								AF117340 cdNA, 3 end /clone=REMBOQ9 /clone_end=3 /gb=A1102620 /gi=3707344 /ug=Rn.9056 /len=522
A11028 38	6786	P12007	6787	AK022777	6788	P26440	6789	97.01 MAP kinase kinase kinase 1 (Mekk1)
								rc_A1102620 EST211909 Rattus norvegicus cdDNA, 3 end /clone=REMBOQ9 /gb=A1102638 /ug=Rn.147 /len=458
A11028 38	6790	P12007	6791	AK022777	6792	P26440	6793	90.77 Isovaleryl Coenzyme A dehydrogenas e
								NM_01259 cdDNA, 3 end /clone=REMBO53 /clone_end=3 /gb=A1102638 /ug=Rn.147 /len=458
A11030 74	6794	P09388	6795	AW13825	6796	XP_017 626	97.12	93.1 ribosomal protein S12
								NM_03170 cdDNA, 3 end /clone=REMWW89 /clone_end=3 /gb=A1103074 /gi=3707671 /ug=Rn.3379 /len=528
A11038 74	6797	AAH02 122	6798	M96256	6799	Q00688	6800	92.93 ESTs, Weakly similar to FKB1 RAT FK506- BINDING PROTEIN [R.norvegicus]
								BC002122 cdDNA, 3 end /clone=RHEBU32 /clone_end=3 /gb=A1103874 /gi=37083352 /ug=Rn.1464 /len=437

Table 2.

A11038 74	6801	AAH02 122	6802	M96256	6803	Q006688	6804	92.93	ESTs, Weakly similar to FKB1 RAT FK506- BINDING PROTEIN [R.norvegicus]	BC002122 cDNA, 3 end /clone=RHEBU32 /clone_end=3 /gb=Al103874 /gi=3708352 /ug=Rn.1464 /len=437	rc_Al103874 EST213163 Rattus norvegicus cDNA, 3 end /clone=RHEBV58 /clone_end=3 /gb=Al103874 /gi=3708419 /ug=Rn.1975 /len=652	Integral membrane protein. CD81 antigen (26 kDa cell surface protein TAPA-1) (Target of the anti-proliferative antibody 1).
A11039 57	6805	Q62745	6806	NM_0043 56	6807	P18552	6808	89	target of the anti-proliferative antibody	U19894 cDNA, 3 end /clone=RHEBV58 /clone_end=3 /gb=Al103957 /gi=3708419 /ug=Rn.1975 /len=652	Integral membrane protein. CD81 antigen (26 kDa cell surface protein TAPA-1) (Target of the anti-proliferative antibody 1).	
A11039 57	6809	Q62745	6810	NM_0043 56	6811	P18552	6812	89	target of the anti-proliferative antibody	U19894 cDNA, 3 end /clone=RHEBV58 /clone_end=3 /gb=Al103957 /gi=3708419 /ug=Rn.1975 /len=652	Integral membrane protein. CD81 antigen (26 kDa cell surface protein TAPA-1) (Target of the anti-proliferative antibody 1).	
A11040 35	6813	NP_079 904	6814	AL528775	6815	No Human Protein Found.		94.39	EST (mouse hypothetical protein)	rc_Al104035 EST213324 Rattus norvegicus cDNA, 3 end /clone=RHEBW48 /clone_end=3 /gb=Al104035 /gi=3708471 /ug=Rn.6009 /len=315		
A11043 89	6816	P04177	6817	AK022876	6818	XP_032 531	6819	92.57	Mus musculus ankyrin-repeat family A protein	rc_Al104389 EST213678 Rattus norvegicus cDNA, 3 end /clone=RHECC67 /clone_end=3 /gb=Al104389 /gi=3708757 /ug=Rn.11082 /len=488	Tyrosine 3- monooxygenase (EC 1.14.16.2) (Tyrosine 3- hydroxylase) (TH).	
A11043 89	6820	P04177	6821	AK022876	6822	155282	6823	92.57	Tyrosine hydroxylase	rc_Al104389 EST213678 Rattus norvegicus cDNA, 3 end /clone=RHECC67 /clone_end=3 /gb=Al104389 /gi=3708757 /ug=Rn.11082 /len=488	Tyrosine 3- monooxygenase (EC 1.14.16.2) (Tyrosine 3- hydroxylase) (TH).	

Table 2.

A1045 13	6824	P11240	6825	M22760	6826	P20674	6827	91.57	Rat CoxVa mRNA for mitochondrial cytochrome c oxidase subunit Va	rc_A104513 EST213802 Rattus norvegicus cDNA, 3 end /clone=RHECE50 /clone_end=3 /gb=A1104513 /gi=3708857 /ug=Rn.11077 /len=585	Mitochondrial "Cytochrome c oxidase polypeptide Va, mitochondrial precursor(EC 1.9.3.1)."
A11045 13	6828	P11240	6829	M22760	6830	P20674	6831	91.57	Rat CoxVa mRNA for mitochondrial cytochrome c oxidase subunit Va	rc_A104513 EST213802 Rattus norvegicus cDNA, 3 end /clone=RHECE50 /clone_end=3 /gb=A1104513 /gi=3708857 /ug=Rn.11077 /len=585	Mitochondrial "Cytochrome c oxidase polypeptide Va, mitochondrial precursor(EC 1.9.3.1)."
A11045 20	6832	P10818	6833	XM_012265	XP_012265		89	Rat mRNA for liver cytochrome c oxidase subunit VIa	X12553	rc_A104520 EST213809 Rattus norvegicus cDNA, 3 end /clone=RHECE58 /clone_end=3 /gb=A1104520 /gi=3708862 /ug=Rn.880 /len=532	Mitochondrial "Cytochrome c oxidase polypeptide VIa, liver, mitochondrial precursor(EC 1.9.3.1)."
A11045 24	6834	NP_112620	6835	BF000687	6836	Q9Y2D1	6837	93.14	heterogeneous nuclear ribonucleoprotein A/B	NM_031330	rc_A104524 EST213813 Rattus norvegicus cDNA, 3 end /clone=RHECE63 /clone_end=3 /gb=A1104524 /gi=3708866 /ug=Rn.3385 /len=613
A11046 79	6838	NP_079799	6839	XP_040747		XM_040747			NADH dehydrogenase	NM_025523	rc_A1104679 EST213968 Rattus norvegicus cDNA, 3 end /clone=RHECH53 /clone_end=3 /gb=A1104679 /gi=3708988 /ug=Rn.8096 /len=479
A11046 79	6840	NP_079799	6841	XP_040747		XM_040747			NADH dehydrogenase	NM_025523	rc_A1104679 EST213968 Rattus norvegicus cDNA, 3 end /clone=RHECH53 /clone_end=3 /gb=A1104679 /gi=3708988 /ug=Rn.8096 /len=479
A11047 07	6842	P51638	6843	AF043101	6844	P56539	6845	89.84	Caveolin 3	rc_A1104707 EST213996 Rattus norvegicus cDNA, 3 end /clone=RHECH96 /clone_end=3 /gb=A1104707 /gi=3709005 /ug=Rn.10175 /len=331	MEMBRANE PROTEIN OF CAVEOLAE. POTENTIAL HAIRPIN-LIKE STRUCTURE IN THE MEMBRANE

Table 2.

A11050 44	6846 319	AAC13 319	6847 No human homolog found.	No Human Protein Found.	250 kDa estrous-specific protein mRNA, partial cds	U53183	rc_A1105044 EST214333 Rattus norvegicus cDNA, 3 end /clone=RHECM89 /clone_end=3 /gb=A1105044 /ug=Rn.1338 /len=572	"THE COATOMER IS CYTOPLASMIC OR POLYMERIZED ON THE CYTOSMIC SIDE OF THE GOLGI, AS WELL AS ON THE VESICLES/BUDS ORIGINATING FROM IT"	Coatomer beta subunit (Beta-coat protein) (Beta-COP).
A11050 54	6848 P23514	6849 AK001203	6850 P53618	6851 beta COP	X57228	rc_A1105054 EST214343 Rattus norvegicus cDNA, 3 end /clone=RHECN06 /clone_end=3 /gb=A1105054 /gi=3709235 /ug=Rn.4327 /len=706	"THE COATOMER IS CYTOPLASMIC OR POLYMERIZED ON THE CYTOSMIC SIDE OF THE GOLGI, AS WELL AS ON THE VESICLES/BUDS ORIGINATING FROM IT"	"Corticosteroid 11-beta-dehydrogenase, isozyme 1 (EC 1.1.1.146) (11-DH)(11-beta-hydroxysteroid dehydrogenase 1)(11-beta-HSD1)."	
A11054 48	6852 P16232	6853 NM_005525	6854 P28845	6855 Hydroxysteroid dehydrogenase, 11 beta type 1	NM_017080	rc_A1105448 EST214737 Rattus norvegicus cDNA, 3 end /clone=RKIBK51 /clone_end=3 /gb=A1105448 /gi=3709527 /ug=Rn.888 /len=638			

Table 2.

A1132 89	6856	P20417	6857	AI803199	6858	NP_002 818	6859	88.5	protein tyrosine phosphatase	NM_01263 7	rc_A113289 UI-R-C2p-nt-h-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A113289 /ug=Rn.11317 /len=332	ASSOCIATE D TO THE ENDOPLAS- MIC RETICULUM VIA ITS C- TERMINAL DOMAIN WITH ITS PHOSPHAT- ASE DOMAIN ORIENTED TOWARDS THE CYTOPLAS- M.	"Protein-tyrosine phosphatase, non-receptor type 1 (EC 3.1.3.48)(Protei- n-tyrosine phosphatase 1B) (PTP-1B)."
A11361 75	6860 00	AAA420	6861	AF235022	6862	P57729	6863	91.24	Rat rab- related GTP- binding protein mRNA, complete cds	rc_A1136175 UI-R-C2p-ns-a-04-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-ns-a-04-0-Ul /clone_end=3 /gb=A1136175 /ug=Rn.9824 /len=295			
A11363 96	6864	Q02293	6865	AK024087	6866	NP_002 019	6867	92.24	farnesytransferase beta subunit	M69056	rc_A1136396 UI-R-C2p-od-e-12-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-od-e-12-0-Ul /clone_end=3 /gb=A1136396 /ug=Rn.8873 /len=435	Protein farnesytransfer- ase beta subunit (EC 2.5.1.-) (CAAXfarnesyltr- ansferase beta subunit) (RAS proteins prenyltransfers- ebe) (FTase- beta).	
A11368 91	6868	P17431	6869	AI902540	6870	O00411	6871	97.14	Butyrate response factor 1	rc_A1136891 UI-R-C2p-of-f-12-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-of- f-12-0-Ul /clone_end=3 /gb=A1136891 /ug=Rn.6142 /len=449	Butyrate response factor 1 (TIS11B protein) (EGF- inducible proteinCMG1).		

Table 2.

A11369 77	6872	S14538	M88279	6873	Q02790	6874	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	X70887	rc_A1136977 UI-R-C2p-nz-f-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-C2p-nz-f-10-0-Ul /clone_end=3 /gb=A1136977 /ug=Rn.23741 /len=376
A11369 77	6875	JN0873	M88279	6876	Q02790	6877	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	X70887	rc_A1136977 UI-R-C2p-nz-f-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-C2p-nz-f-10-0-Ul /clone_end=3 /gb=A1136977 /ug=Rn.23741 /len=376
A11369 77	6878	S14538	M88279	6879	Q02790	6880	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	X70887	rc_A1136977 UI-R-C2p-nz-f-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-C2p-nz-f-10-0-Ul /clone_end=3 /gb=A1136977 /ug=Rn.23741 /len=376
A11369 77	6881	S14538	M88279	6882	Q02790	6883	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	X70887	rc_A1136977 UI-R-C2p-nz-f-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-C2p-nz-f-10-0-Ul /clone_end=3 /gb=A1136977 /ug=Rn.23741 /len=376
A11369 77	6884	S14538	M88279	6885	Q02790	6886	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	X70887	rc_A1136977 UI-R-C2p-nz-f-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-C2p-nz-f-10-0-Ul /clone_end=3 /gb=A1136977 /ug=Rn.23741 /len=376
A11369 77	6887	JN0873	M88279	6888	Q02790	6889	96.18	ESTs, Highly similar to P59 - mouse JN0873 immunophilin [M.musculus]	X70887	rc_A1136977 UI-R-C2p-nz-f-10-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=Ul-R-C2p-nz-f-10-0-Ul /clone_end=3 /gb=A1136977 /ug=Rn.23741 /len=376
A11377 90	6890	Q05310	6891	NM_014047	6892	AAD44484	6893	87.66	R.norvegicus mRNA from Leydig cell hypercalcemic tumour H-500	rc_A1137790 UI-R-E1-gc-a-08-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A1137790 /ug=Rn.11148 /len=590
A11447 67	6894	Q63582	6895	X03541	6896	P04629	6897	66	brain alpha-tropomyosin	M34136
									Leydig cell tumor 10 kDa protein.	rc_A1144767 UI-R-BT0-pr-c-03-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A1144767 /ug=Rn.1033 /len=475
									Tropomyosin 1 alpha chain (Alpha-tropomyosin).	Tropomyosin 1

Table 2.

A11461 95	6898	Q62847	6899	NM_0168 24	6900	Q9UEY8	6901	78	Adducin 3, gamma	NM_03155 2	rc_A1146195 UI-R-A1-ew-e-07-0-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=e-07-0-Ul /clone_end=3 /gb=A1146195 /ug=Rn.9416 /len=403	Gamma adducin (Adducin-like protein 70) (Protein kinase C binding protein 35H).
A11690 05	6902	Q04753	6903	AA832121	6904	NP_001 284	6905	94.77	chloride channel current inducer (Clcn1),	NM_03171 9	rc_A1169005 EST214833 Rattus norvegicus cDNA, 3 end /clone=RKIBL76 /clone_end=3 /gb=A1169005 /gi=37705313 /ug=Rn.4089 /len=601	Cytoplasmic conductance regulatory protein ICln (ICln) (Chloridechannel 1, nucleotide sensitive 1A)."
A11693 70	6906	P02551	6907	BC006379	6908	P05209	6909	100	Rat mRNA for alpha-tubulin	V01226	rc_A1169370 EST215214 Rattus norvegicus cDNA, 3 end /clone=RKIBR40 /clone_end=3 /gb=A1169370 /gi=3705678 /ug=Rn.3389 /len=581	Tubulin alpha-1 chain.
A11706 13	6910	P26772	6911	X75821	6912	Q04984	6913	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_A1170613 EST216547 Rattus norvegicus cDNA, 3 end /clone=RMUAZ03 /clone_end=3 /gb=A1170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial "10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."	
A11706 13	6914	P26772	6915	X75821	6916	Q04984	6917	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_A1170613 EST216547 Rattus norvegicus cDNA, 3 end /clone=RMUAZ03 /clone_end=3 /gb=A1170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial "10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."	
A11706 13	6918	P26772	6919	X75821	6920	Q04984	6921	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_A1170613 EST216547 Rattus norvegicus cDNA, 3 end /clone=RMUAZ03 /clone_end=3 /gb=A1170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial "10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."	

Table 2.

A11706 13	6922	P26772	6923	X75821	6924	Q04984	6925	90.29	Heat shock 100 kDa protein 1 (chaperonin 10)		rc_A1170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=A1170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial "10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
A11706 13	6926	P26772	6927	X75821	6928	Q04984	6929	90.29	Heat shock 100 kDa protein 1 (chaperonin 10)		rc_A1170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=A1170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial "10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
A11706 13	6930	P26772	6931	X75821	6932	Q04984	6933	90.29	Heat shock 100 kDa protein 1 (chaperonin 10)		rc_A1170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=A1170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial "10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
A11706 85	6934	O35824	6935	NM_005880	6936	O60884	6937	86	mDj3	AB028853	rc_A1170685 EST216621 Rattus norvegicus cDNA, 3' end /clone=RMUAZ92 /clone_end=3 /gb=A1170685 /gi=3710725 /ug=Rn.3904 /len=648	Membrane-bound .
A11711 67	6938	P55260	6939	M82809	6940	P09525	6941	86.94	annexin IV	NM_024155	rc_A1171167 EST217116 Rattus norvegicus cDNA, 3' end /clone=RMUBH06 /clone_end=3 /gb=A1171167 /gi=3711207 /ug=Rn.19270 /len=596	DnaJ homolog subfamily A member 2 (RDJ2).
A11712 43	6942	Q62728	6943	AF069072	6944	Q9Y2J2	6945	89.23	Rattus norvegicus mRNA for type II brain 4.1 minor isoform, complete cds		rc_A1171243 EST217198 Rattus norvegicus cDNA, 3' end /clone=RMUBI06 /clone_end=3 /gb=A1171243 /gi=3711283 /ug=Rn.8686 /len=631	

Table 2.

A11712 43	6946	Q62728	6947	AF069072	6948	Q9Y2J2	6949	89.23	Rattus norvegicus mRNA for type II brain 4.1 minor isoform, complete cds	rc_A1171243 EST27198 Rattus norvegicus cDNA, 3 end /clone=RMUB106 /clone_end=3 /gb=A1171243 /gi=3711283 /ug=Rn.8686 /len=631	DNA-binding protein inhibitor ID-3.	
A11712 68	6950	P41138	6951	X66924	6952	Q02535	6953	88.38	inhibitor of DNA binding 3 (Idb3),	NM_00832 cDNA, 3 end /clone=RMUB134 /clone_end=3 /gb=A1171268 /gi=3711308 /ug=Rn.2760 /len=589	rc_A1171268 EST27223 Rattus norvegicus cDNA, 3 end /clone=RMUB134 /clone_end=3 /gb=A1171268 /gi=3711308 /ug=Rn.2760 /len=589	Nuclear. Attached to Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin).
A11714 62	6954	Q07490	6955	AI860750	6956	A48996	6957	84.52	CD24 antigen	Z11663 cDNA, 3 end /clone=RMUBL26 /clone_end=3 /gb=A1171462 /gi=3711502 /ug=Rn.6007 /len=490	rc_A1171462 EST27424 Rattus norvegicus cDNA, 3 end /clone=RMUBL26 /clone_end=3 /gb=A1171462 /gi=3711502 /ug=Rn.6007 /len=490	Attached to membrane by a GPI- anchor. Attached to Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin).
A11714 62	6957	Q07490	6958	AI860750	6959	A48996	6960	84.52	CD24 antigen	Z11663 cDNA, 3 end /clone=RMUBL26 /clone_end=3 /gb=A1171462 /gi=3711502 /ug=Rn.6007 /len=490	rc_A1171462 EST27424 Rattus norvegicus cDNA, 3 end /clone=RMUBL26 /clone_end=3 /gb=A1171462 /gi=3711502 /ug=Rn.6007 /len=490	Attached to membrane by a GPI- anchor. Attached to Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin).
A11716 30	6960	P70618	6961	L35263	6962	Q16539	6963	91.28	p38 mitogen activated protein kinase (Mapk14)	NM_03102 cDNA, 3 end /clone=RMUBN50 /clone_end=3 /gb=A1171630 /gi=3711670 /ug=Rn.3293 /len=708	rc_A1171630 EST27602 Rattus norvegicus cDNA, 3 end /clone=RMUBN50 /clone_end=3 /gb=A1171630 /gi=3711670 /ug=Rn.3293 /len=708	Mitogen- activated protein kinase 14 (EC 2.7.1.-) (Mitogen activated protein kinase p38) (MAP kinase p38).
A11719 66	6964	CAA89 832	6965	U15085	6966	P28068	6967	85.8	RT1.Mb	Z49762 cDNA, 3 end /clone=RMUBT25 /clone_end=3 /gb=A1171966 /gi=3712006 /ug=Rn.5892 /len=663	rc_A1171966 EST27960 Rattus norvegicus cDNA, 3 end /clone=RMUBT25 /clone_end=3 /gb=A1171966 /gi=3712006 /ug=Rn.5892 /len=663	

Table 2.

A11720_17	6968	P11884	6969	K03001	6970	P05091	6971	88.77	Aldehyde dehydrogenase 6 e 2, mitochondrial	NM_03241	rc_A1172017 EST218012 Rattus norvegicus cDNA, 3 end /clone=RMUBT91 /clone_end=3 /gb=A1172017 /gi=3712057 /ug=Rn.2300 /len=550	Mitochondrial "Aldehyde dehydrogenase, mitochondrial precursor (EC 1.2.1.3) (ALDHclass 2) (ALDH1) (ALDH-E2)."
A11720_17	6972	P11884	6973	K03001	6974	P05091	6975	88.77	Aldehyde dehydrogenase 6 e 2, mitochondrial	NM_03241	rc_A1172017 EST218012 Rattus norvegicus cDNA, 3 end /clone=RMUBT91 /clone_end=3 /gb=A1172017 /gi=3712057 /ug=Rn.2300 /len=550	Mitochondrial "Aldehyde dehydrogenase, mitochondrial precursor (EC 1.2.1.3) (ALDHclass 2) (ALDH1) (ALDH-E2)."
A11722_47	6976	P22985	6977	D11456	6978	P47989	6979	86.3	xanthine dehydrogenase (Xdh)	NM_01715	rc_A1172247 EST218247 Rattus norvegicus cDNA, 3 end /clone=RMUBW79 /clone_end=3 /gb=A1172247 /gi=3712287 /ug=Rn.7324 /len=471	Peroxisomal Xanthine dehydrogenase/ oxidase [Includes: Xanthine dehydrogenase (EC 1.1.1.204) (XD); Xanthine oxidase (EC 1.1.3.22) (XO) (Xanthineoxidoreductase)].
A11724_11	6980	P23764	6981	AI245240	6982	P22352	6983	89	Plasma glutathione peroxidase precursor		rc_A1172411 EST218418 Rattus norvegicus cDNA, 3 end /clone=RMUBZ17 /clone_end=3 /gb=A1172411 /gi=3712451 /ug=Rn.1491 /len=617	Extracellular Plasma glutathione peroxidase precursor (EC 1.11.1.9) (GSHPx-P).
A11757_64	6984	P07308	6985	AF097514	6986	O00767	6987	85	Rat liver stearly-CoA desaturase mRNA, complete cds		rc_A1175764 EST219331 Rattus norvegicus cDNA, 3 end /clone=ROVBF01 /clone_end=3 /gb=A1175764 /ug=Rn.10982 /len=441	Integral membrane protein. Endoplasmic reticulum . Acyl-CoA desaturase (EC 1.14.99.5) (Stearoyl-CoA desaturase) (Fattyacid desaturase) (Delta(9)-desaturase).

Table 2.

A11759 35	6988	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male cecum cDNA, RIKEN		rc_A1175935 EST219508 Rattus norvegicus cDNA, 3 end /clone=ROVBH40 /clone_end=3 /gb=A1173935 /ug=Rn.8737 /len=448		
A11760 21	6989	NP_032 986	6990	BI823499	6991	XM_034 848	NM_00896 0	rc_A1176021 EST219597 Rattus norvegicus cDNA, 3 end /clone=ROVBJ53 /clone_end=3 /gb=A1176021 /ug=Rn.22158 /len=586	
A11760 52	6992	P29411	6993	AB021870	6994	Q9UJ7	6995	rc_A1176052 EST219628 Rattus norvegicus cDNA, 3 end /clone=ROVBJ90 /clone_end=3 /gb=A1176052 /ug=Rn.60 /len=587	
A11761 70	6996	Q62658	6997	XM_01666 0	XP_016 660		Mus musculus, FK506 binding protein 1a	rc_A1176170 EST219751 Rattus norvegicus cDNA, 3 end /clone=ROVBL77 /clone_end=3 /gb=A1176170 /ug=Rn.1740 /len=469	
A11763 51	6998	Q64560	6999	BFF511874	7000	P29744	7001	91.62 Tripeptidylpeptidase II	rc_A1176351 EST219934 Rattus norvegicus cDNA, 3 end /clone=ROVBQ51 /clone_end=3 /gb=A1176351 /ug=Rn.11265 /len=540
A11763 51	7002	Q64560	7003	BFF511874	7004	P29144	7005	91.62 Tripeptidylpeptidase II	rc_A1176351 EST219934 Rattus norvegicus cDNA, 3 end /clone=ROVBQ51 /clone_end=3 /gb=A1176351 /ug=Rn.11265 /len=540

Table 2.

A11764 22	7006	No Rat Protein Found.	BE172552	7007	NP_004 444	7008	95.07	ESTs, Highly similar to 2006241A flavoprotein ubiquinone oxidoreductase [H.sapiens]	rc_A1176422 EST220006 Rattus norvegicus cDNA, 3 end /clone=ROVBR53 /clone_end=3 /gb=A1176422 /ug=Rn.4044 /len=430
A11764 22	7009	No Rat Protein Found.	BE172552	7010	NP_004 444	7011	95.07	ESTs, Highly similar to 2006241A flavoprotein ubiquinone oxidoreductase [H.sapiens]	rc_A1176422 EST220006 Rattus norvegicus cDNA, 3 end /clone=ROVBR53 /clone_end=3 /gb=A1176422 /ug=Rn.4044 /len=430
A11764 61	7012	Q62638	7013	U64791	7014	Q92896	7015	96 selectin, endothelial cell, ligand (Gig1),	NM_01721 rc_A1176461 EST220046 Rattus norvegicus cDNA, 3 end /clone=ROVBS09 /clone_end=3 /gb=A1176461 /ug=Rn.10507 /len=534
A11764 88	7016	BAA252	7017	U85193	7018	O00712	7019	96.19 NF1-B3	AB012232 rc_A1176488 EST220073 Rattus norvegicus cDNA, 3 end /clone=ROVBS47 /clone_end=3 /gb=A1176488 /ug=Rn.9909 /len=650
A11764 91	7020	NP_079 799	7021	XM_04074 7		XP_040 747		Mus musculus NM_02552 NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 1 (Ndifc1), mRNA	rc_A1176491 EST220076 Rattus norvegicus cDNA, 3 end /clone=ROVBS52 /clone_end=3 /gb=A1176491 /ug=Rn.8096 /len=575

Table 2.

A11765 04	7022	P13264	7023	AF097495	7024	O94925	7025	97.58	glutaminase	M65150	rc_A1176504 EST220089 Rattus norvegicus cDNA, 3 end /clone=ROVBS73 /clone_end=3 /gb=A1176504 /ug=Rn.5762 /len=658	Mitochondrial "Glutaminase, kidney isoform, mitochondrial precursor (EC 3.5.1.2)(GLS) (L- glutamine amidohydrolase (K- glutaminase)."
A11765 89	7026	P08526	7027	BG939205	7028	Q9P2X0	7029	92.45	Ribosomal protein L27	rc_A1176589 EST220177 Rattus norvegicus cDNA, 3 end /clone=ROVBU24 /clone_end=3 /gb=A1176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.	
A11765 89	7030	P08526	7031	BG939205	7032	Q9P2X0	7033	92.45	Ribosomal protein L27	rc_A1176589 EST220177 Rattus norvegicus cDNA, 3 end /clone=ROVBU24 /clone_end=3 /gb=A1176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.	
A11765 89	7034	P08526	7035	BG939205	7036	Q9P2X0	7037	92.45	Ribosomal protein L27	rc_A1176589 EST220177 Rattus norvegicus cDNA, 3 end /clone=ROVBU24 /clone_end=3 /gb=A1176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.	
A11765 89	7038	P08526	7039	BG939205	7040	Q9P2X0	7041	92.45	Ribosomal protein L27	rc_A1176589 EST220177 Rattus norvegicus cDNA, 3 end /clone=ROVBU24 /clone_end=3 /gb=A1176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.	
A11766 89	7042	AAK534	7043	D87905	7044	P52564	7045	90.26	Mitogen- activated protein kinase kinase 6	AF369384 rc_A1176689 EST220282 Rattus norvegicus cDNA, 3 end /clone=ROVBV56 /clone_end=3 /gb=A1176689 /ug=Rn.17256 /len=597		
A11768 56	7046	Q64678	7047	U03688	7048	Q16678	7049	84.64	Cytochrome P450 1b1	rc_A1176856 EST220459 Rattus norvegicus cDNA, 3 end /clone=ROVBX74 /clone_end=3 /gb=A1176856 /ug=Rn.10125 /len=666	Membrane- bound. Endoplasmic reticulum.	
											Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).	

Table 2.

A11770 04	7050	P17425	7051	BC000297	7052	Q01581	7053	90.24	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1	"Hydroxymethyl glutaryl-CoA synthase, cytoplasmic (EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."	Cytoplasmic.
A11770 04	7054	P17425	7055	BC000297	7056	Q01581	7057	90.24	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1	"Hydroxymethyl glutaryl-CoA synthase, cytoplasmic (EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."	Cytoplasmic.
A11771 61	7058	O54968	7059	S74017	7060	Q16236	7061	82	NF-E2-related factor 2	"Nuclear factor erythroid 2 related factor 2 (NF-E2 related factor 2)(NFE2-related factor 2) (Nuclear factor, erythroid derived 2, like 2)."	Nuclear .

Table 2.

A11771 61	7062	O54968	7063	S74017	7064	Q16236	7065	82	NF-E2-related factor 2		rc_A1177161 EST220768 Rattus norvegicus cDNA, 3 end /clone=ROVCB60 /clone_end=3 /gb=A1177161 /ug=Rn.10867 /len=616	Nuclear .
											"Nuclear factor erythroid 2 related factor 2 (NF-E2 related factor 2)(NFE2-related factor 2)(Nuclear factor, erythroid derived 2, like 2)."	
A11774 04	7066	AAF739	7067	AK001595	7068	CAC432	7069	95.65	Mus musculus AF237622 acetyltransferase Tubedown-1 mRNA		rc_A1177404 EST221024 Rattus norvegicus cDNA, 3 end /clone=RPLBY70 /clone_end=3 /gb=A1177404 /ug=Rn.12387 /len=684	
A11774 04	7070	AAF739	7071	AK001595	7072	CAC432	7073	95.65	Mus musculus AF237622 acetyltransferase Tubedown-1 mRNA		rc_A1177404 EST221024 Rattus norvegicus cDNA, 3 end /clone=RPLBY70 /clone_end=3 /gb=A1177404 /ug=Rn.12387 /len=684	
A11776 83	7074	CAA76	7075	AW38340	7076	P51991	7077	100	hnRNP	Y16641	rc_A1177683 EST221324 Rattus norvegicus cDNA, 3 end /clone=RPLCE51 /clone_end=3 /gb=A1177683 /ug=Rn.3924 /len=434	
A11777 51	7078	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 10 days embryo cDNA, RIKEN		rc_A1177751 EST221393 Rattus norvegicus cDNA, 3 end /clone=RPLCF64 /clone_end=3 /gb=A1177751 /ug=Rn.5996 /len=696	
A11779 86	7079	Q07205	7080	NM_0019	7081	P55010	7082	80	eukaryotic initiation factor 5 (eIF-5)	NM_02007	rc_A1177986 EST221642 Rattus norvegicus cDNA, 3 end /clone=RPLCJ54 /clone_end=3 /gb=A1177986 /ug=Rn.3506 /len=536	Eukaryotic translation initiation factor 5 (eIF-5).

Table 2.

A11781 35	7083	O35796	7084	XM_01267	7085	XP_012 676	7086	78	complement component 1 9	NM_01925 cdNA, 3 end /clone=RPLCM57 /clone_end=3 /gb=A1178135 /ug=Rn.2765 /len=578	rc_A1178135 EST221798 Rattus norvegicus cdNA, 3 end /clone=RPLCM57 /clone_end=3 /gb=A1178135 /ug=Rn.2765 /len=578	Mitochondrial "Complement component 1, Q subcomponent binding protein, mitochondrialpr ecursor (Glycoprotein GC1QBP) (GC1QR protein)."
A11782 04	7087	No Rat Protein Found.	No human homolog found.	No Human Protein Found.					EST (not recognized)	rc_A1178204 EST221869 Rattus norvegicus cdDNA, 3 end /clone=RPLCN48 /clone_end=3 /gb=A1178204 /ug=Rn.221 /len=520		
A11782 08	7088	P52591	7089	AC006014	7090	g469996 4		70	R.norvegicus integral membrane glycoprotein cDNA	rc_A1178208 EST221873 Rattus norvegicus cdDNA, 3 end /clone=RPLCN52 /clone_end=3 /gb=A1178208 /ug=Rn.10474 /len=619	TYPE II MEMBRANE PROTEIN. NUCLEAR PORE MEMBRANE.	
A11790 12	7091	NP_112 406	7092	BE732178	7093	P17008	7094	95.36	cytoplasmic beta-actin (Actb)	NM_03114 4	rc_A1179012 EST222694 Rattus norvegicus cdDNA, 3 end /clone=RSPCA41 /clone_end=3 /gb=A1179012 /ug=Rn.69 /len=388	Nuclear envelope pore membrane protein POM 121 (Pore membrane protein of 121 kDa) (P145).
A11793 99	7095	CAA12 180	7096	AA348035	7097	NP_000 384	7098	90.6	collagen alpha 2 type V,	AJ224880 4	rc_A1179399 EST223101 Rattus norvegicus cdDNA, 3 end /clone=RSPCG71 /clone_end=3 /gb=A1179399 /ug=Rn.2875 /len=589	
A11794 45	7099	No Rat Protein Found.		A1003932	7100	No Human Protein Found.		94.4	EST (not recognized)	rc_A1179445 EST223155 Rattus norvegicus cdDNA, 3 end /clone=RSPCH43 /clone_end=3 /gb=A1179445 /ug=Rn.221 /len=438		
A11794 45	7101	No Rat Protein Found.		A1003932	7102	No Human Protein Found.		94.4	EST (not recognized)	rc_A1179445 EST223155 Rattus norvegicus cdDNA, 3 end /clone=RSPCH43 /clone_end=3 /gb=A1179445 /ug=Rn.221 /len=438		
A11799 16	7103	BAB231 56	7104	R77959	7105	XP_018 277	7106	97.56	Homo sapiens similar to HSPC038 protein	AK004076 cdDNA, 3 end /clone=RSPCN66 /clone_end=3 /gb=A1179916 /ug=Rn.221 /len=520		

Table 2.

AI1801 08	7107 AF1399 87	D26068 7108	Q15056 7110	95.33 Mus musculus LIM-kinase1 (Limk1) gene	AF139987 cDNA, 3 end /clone=RSPCQ22 /clone_end=3 /gb=AI180108 /ug=Rn.2880 /len=504	rc_AI180108 EST223845 Rattus norvegicus cDNA, 3 end /clone=RSPCS84 /clone_end=3 /gb=AI180108 /ug=Rn.10621 /len=417	
AI1802 88	P02761 7111	D90452 7112	Q05682 7113	90.15 Caldesmon 1 NM_01314 6	FABP IS CYTOSOLIC. IT IS PROBABLY TAKEN UP FROM THE URINARY LUMEN BY ENDOCYTO SIS.	15.5 kDa FABP IS CYTOSOLIC. IT IS PROBABLY TAKEN UP FROM THE URINARY LUMEN BY ENDOCYTO SIS.	Major urinary protein precursor (MUP) (Alpha- 2u-globulin) (15.5 kDa)fatty acid binding protein)(15.5 kDa FABP) (Alpha(2)- euglobulin)(Aller gen Rat n 1) (Rat n 1).
AI1802 88	P02761 7115	D90452 7116	Q05682 7117	90.15 Caldesmon 1 NM_01314 6	FABP IS CYTOSOLIC. IT IS PROBABLY TAKEN UP FROM THE URINARY LUMEN BY ENDOCYTO SIS.	15.5 kDa FABP IS CYTOSOLIC. IT IS PROBABLY TAKEN UP FROM THE URINARY LUMEN BY ENDOCYTO SIS.	Major urinary protein precursor (MUP) (Alpha- 2u-globulin) (15.5 kDa)fatty acid binding protein)(15.5 kDa FABP) (Alpha(2)- euglobulin)(Aller gen Rat n 1) (Rat n 1).
AI1803 96	O55081 7119	AK023320 7120	CAA536 7121	retinoblastom a-like 2 (p130) NM_03109 4	Nuclear.	rc_AI180396 EST224140 Rattus norvegicus cDNA, 3 end /clone=RSPCX16 /clone_end=3 /gb=AI180396 /ug=Rn.11020 /len=554	Retinoblastoma- like protein 2 (130 kDa retinoblastoma- associatedprotei n) (PRB2) (P130) (RBR-2).

Table 2.

A1804 24	7123	P35215	7124	AW67411	7125	NP_006 752	7126	96.68	tyrosine 3- se/triptophan 5- monoxygenase activation protein, zeta polypeptide	NM_01301 cDNA, 3 end /clone=RSPCX52 /clone_end=3 /gb=Al180424 /ug=Rn.1292 /len=681	Cytoplasmic. zeta/delta (Protein kinase C inhibitor protein-1)(KCIP- 1) (Mitochondrial import stimulation factor S1 subunit).
A1804 42	7127	P05369	7128	J05262	7129	P14324	7130	85	Testis-specific farnesyl pyrophosphate synthetase	rc_A180442 EST224188 Rattus norvegicus cDNA, 3 end /clone=RSPCX75 /clone_end=3 /gb=Al180442 /ug=Rn.2622 /len=646	Cytoplasmic. Farnesyl pyrophosphate synthetase (FPP synthetase) (FPS) (Farnesyldiphos- phate synthetase) (Cholesterol- regulated 39 kDa protein) (CR 39)[Includes: Dimethylallyltrans- ferase (EC 2.5.1.1); Geranyl transra

Table 2.

A11804_42	7131	P05369	7132	J05262	7133	P14324	7134	85	Testis-specific farnesyl pyrophosphate synthetase	rc_A1180442 EST224188 Rattus norvegicus cDNA, 3 end /clone=RSPECX75 /clone_end=3 /gb=A1180442 /ug=Rn.2622 /len=646	Cytoplasmic. Farnesyl pyrophosphate synthetase (FPP synthetase) (FPS) (Farnesyldiphosphate synthetase) (Cholesterol-regulated 39 kDa protein) (CR 39)[Includes: Dimethylallyltransferase (EC 2.5.1.1); Geranyl transferase]
A12277_15	7135	O55081	7136	AK023320	7137	CAA53661	7138	90.43	Retinoblastoma-like 2 (p130) 4	NM_03109 rc_A1227715 EST224410 Rattus norvegicus cDNA, 3 end /clone=RBRCCK56 /clone_end=3 /gb=A1227715 /ug=Rn.11020 /len=523	Nuclear. Retinoblastoma-like protein 2 (130 kDa retinoblastoma-associated protein) (PRB2) (P130) (RBR-2).
A12279_36	7139	AAB53041	7140	U33246	7141	NP_009189	7142	98.75	Homo sapiens vacuolar protein sorting 45A	U81160 rc_A1227936 EST224631 Rattus norvegicus cDNA, 3 end /clone=RBRCN80 /clone_end=3 /gb=A1227936 /ug=Rn.9316 /len=605	

Table 2.

A12284 07	7143	P13589	7144	A1039838	7145	Q99653	7146	94.12	pituitary adenylate cyclase activating polypeptide 1	rc_A1228407 EST225102 Rattus norvegicus cDNA, 3 end /clone=RBRCU35 /clone_end=3 /gb=A1228407 /ug=Rn.3399 /len=496	Pituitary adenylate cyclase activating polypeptide precursor (PACAP)[Contai- ns: PACAP- related peptide (PRP-4); Pituitary adenylate cyclaseactivatin g polypeptide- 27 (PACAP-27) (PACAP27); Pituitary aden-	
A12285 99	7147	P41516	7148	AK024080	7149	P11388	7150	91.3	topoisomeras e (DNA) II alpha (Top2a),	NM_02218 3 /clone_end=3 /gb=A1228599 /ug=Rn.3877 /len=572	rc_A1228599 EST225294 Rattus norvegicus cDNA, 3 end /clone=RBRCW95 /clone_end=3 /gb=A1228599 /ug=Rn.3877	Nuclear. "DNA topoisomerase II, alpha isozyme (EC 5.99.1.3)."
A12286 75	7151	O70436	7152	U68018	7153	Q15796	7154	91.46	MAD homolog 2 (Drosophila)	NM_01919 1 /clone_end=3 /gb=A1228675 /ug=Rn.2755 /len=545	rc_A1228675 EST225370 Rattus norvegicus cDNA, 3 end /clone=RBRCX95 /clone_end=3 /gb=A1228675 /ug=Rn.2755 /len=545	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers againstDPP homolog 2) (Mad-related protein 2).
A12287 38	7155	Q82658	7156	NM_0008 01	7157	P20071	7158	96	FK506-binding protein 1 (12kD)	NM_01310 2 /clone_end=3 /gb=A1228738 /ug=Rn.2792 /len=495	rc_A1228738 EST225433 Rattus norvegicus cDNA, 3 end /clone=RBRCY78 /clone_end=3 /gb=A1228738 /ug=Rn.2792 /len=495	Cytoplasmic. FK506-binding protein (FKBP- 12) (Peptidyl- prolyl cis-trans isomerase)(EC 5.2.1.8) (PPIase) (Rotamase) (Immunophilin FKBP12).

Table 2.

A12294 97	7159	No Rat Protein Found.	NM_0045 48	7160	O96000	7161	ESTs, Moderately similar to NADH dehydrogenase [H.sapiens]	rc_A1229497 EST226192 Rattus norvegicus cDNA, 3 end /clone=REMCH27 /clone_end=3 /gb=A1229497 /ug=Rn.2867 /len=444
A12294 97	7162	No Rat Protein Found.	NM_0045 48	7163	O96000	7164	ESTs, Moderately similar to NADH dehydrogenase [H.sapiens]	rc_A1229497 EST226192 Rattus norvegicus cDNA, 3 end /clone=REMCH27 /clone_end=3 /gb=A1229497 /ug=Rn.2867 /len=444
A12296 37	7165	NP_113 856	XM_02780 9	XP_027 809		57	MYB binding protein	NM_03166 8
A12299 24	7167	NP_080 263	XP_01002 5	XM_010 025		ESTs, Moderately similar to NB4M_HUMA_N NADH-UBIQUINONE OXIDOREDUCTASE B14 SUBUNIT [H.sapiens]	rc_A1229637 EST226332 Rattus norvegicus cDNA, 3 end /clone=REMCJ75 /clone_end=3 /gb=A1229637 /ug=Rn.6881 /len=546	
A12302 11	7169	AAA804 59	7170	AB040902	7171	Q9NZU0	7172	L48619 Rattus norvegicus voltage-gated K+ channel
A12303 54	7173	BAA123 35	7174	D29641	7175	P42285	7176	91.88 Phosphatidic acid phosphatase D84376 rc_A1230354 EST227049 Rattus norvegicus cDNA, 3 end /clone=REMCV50 /clone_end=3 /gb=A1230354 /ug=Rn.1944 /len=520

Table 2.

A12305 72	7177	P27817	7178	A1915610	7179	I39382	98.37	Y box protein 1	rc_A1230572 EST227267 Rattus norvegicus cDNA, 3 end /clone=REMCY30 /clone_end=3 /gb=A1230572 /ug=Rn.3181 /len=317	Nuclear.	Nuclease sensitive element binding protein 1 (Y box binding protein- 1)(Y-box transcription factor) (YB-1) (CCAA T-binding transcriptionfact or I subunit A) (CBF-A) (Enhancer factor I subunit A) (EFL-A)(
A12305 72	7180	P27817	7181	A1915610	7182	I39382	98.37	Y box protein 1	rc_A1230572 EST227267 Rattus norvegicus cDNA, 3 end /clone=REMCY30 /clone_end=3 /gb=A1230572 /ug=Rn.3181 /len=317	Nuclear.	Nuclease sensitive element binding protein 1 (Y box binding protein- 1)(Y-box transcription factor) (YB-1) (CCAA T-binding transcriptionfact or I subunit A) (CBF-A) (Enhancer factor I subunit A) (EFL-A)(
A12307 48	7183	P14701	7184	NM_003295	7185	P13633	7186	95	lens epithelia protein	U20525	rc_A1230748 EST227443 Rattus norvegicus cDNA, 3 end /clone=REMDA73 /clone_end=3 /gb=A1230748 /ug=Rn.2132 /len=643
											Translatioally controlled tumor protein (TCP) (p23) (21 kDopolypeptide) (p21) (Lens epithelial protein).

Table 2.

A12310 07	7187 32	BAA229 32	7188 AK026246	7189 NP_061 137	7190 P27701	89.2 kangai 1 (suppression of tumorigenicity 6), prostate (Kai1)	CCA1 protein AB000215	rc_A1231007 EST227695 Rattus norvegicus cDNA, 3 end /clone=REMDE15 /clone_end=3 /gb=A1231007 /ug=Rn.10838 /len=527	Integral membrane protein.	CD82 antigen (Metastasis suppressor homolog).
A12312 13	7191 O70352	7192 NM_0022 31	7193 NM_0022 31	7194 P27701	62	kangai 1 (suppression of tumorigenicity 6), prostate (Kai1)	NM_03179 7	rc_A1231213 EST227901 Rattus norvegicus cDNA, 3 end /clone=REMIDH23 /clone_end=3 /gb=A1231213 /ug=Rn.3022 /len=582	Integral membrane protein.	CD82 antigen (Metastasis suppressor homolog).
A12312 13	7195 O70352	7196 NM_0022 31	7197 P27701	7198 62	kangai 1 (suppression of tumorigenicity 6), prostate (Kai1)	NM_03179 7	rc_A1231213 EST227901 Rattus norvegicus cDNA, 3 end /clone=REMIDH23 /clone_end=3 /gb=A1231213 /ug=Rn.3022 /len=582	Integral membrane protein.	CD82 antigen (Metastasis suppressor homolog).	
A12312 92	7199 P14841	7200 NM_0000 99	7201 P01034	7202 72	Cysteine proteinase inhibitor cystatin C	X16957	rc_A1231292 EST227980 Rattus norvegicus cDNA, 3 end /clone=REMID126 /clone_end=3 /gb=A1231292 /ug=Rn.956 /len=659	Cystatin C precursor (Fragment).		
A12312 92	7203 P14841	7204 NM_0000 99	7205 P01034	7206 72	Cysteine proteinase inhibitor cystatin C	X16957	rc_A1231292 EST227980 Rattus norvegicus cDNA, 3 end /clone=REMID126 /clone_end=3 /gb=A1231292 /ug=Rn.956 /len=659	Cystatin C precursor (Fragment).		
A12313 54	7207 P49186	7208 L31951	7209 P45944	7210 93.85	Stress activated protein kinase alpha II		rc_A1231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMID02 /clone_end=3 /gb=A1231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activatedprotein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).		

Table 2.

A12313 54	7211	P49186	7212	L31951	7213	P45984	7214	93.85	Stress activated protein kinase alpha II	rc_A1231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMDJ02 /clone_end=3 /gb=A1231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activatedprotein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
A12313 54	7215	P49186	7216	L31951	7217	P45984	7218	93.85	Stress activated protein kinase alpha II	rc_A1231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMDJ02 /clone_end=3 /gb=A1231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activatedprotein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
A12313 54	7219	P49186	7220	L31951	7221	P45984	7222	93.85	Stress activated protein kinase alpha II	rc_A1231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMDJ02 /clone_end=3 /gb=A1231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activatedprotein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

A12313 54	7223	P49186	7224	L31951	7225	P45984	7226	93.85	Stress activated protein kinase alpha II	rc_A1231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMIDJ02 /clone_end=3 /gb=A1231354 /ug=Rn.9910 /len=521	Mitogen-activated protein kinase 9 (EC 2.7.1.-) (Stress-activatedprotein kinase JNK2) (c-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
A12313 54	7227	P49186	7228	L31951	7229	P45984	7230	93.85	Stress activated protein kinase alpha II	rc_A1231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMIDJ02 /clone_end=3 /gb=A1231354 /ug=Rn.9910 /len=521	Mitogen-activated protein kinase 9 (EC 2.7.1.-) (Stress-activatedprotein kinase JNK2) (c-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
A12313 54	7231	P49186	7232	L31951	7233	P45984	7234	93.85	Stress activated protein kinase alpha II	rc_A1231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMIDJ02 /clone_end=3 /gb=A1231354 /ug=Rn.9910 /len=521	Mitogen-activated protein kinase 9 (EC 2.7.1.-) (Stress-activatedprotein kinase JNK2) (c-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

A12313 54	7235	P49186	7236	L31951	7237	P45984	7238	93.85	Stress activated protein kinase alpha II	rc_A1231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMJD02 /len=521 /gb=A1231354 /ug=Rn.9910 /len=521	Mitogen-activated protein kinase 9 (EC 2.7.1.-) (Stress-activated protein kinase JNK2) (C-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
A12313 75	7239	P15978	7240	No human homolog found.		No Human Protein Found.		X90374	R.norvegicus mRNA for RT1.A3(O) alpha chain	rc_A1231375 EST228063 Rattus norvegicus cDNA, 3 end /clone=REMJD29 /len=3 /gb=A1231375 /ug=Rn.7199 /len=592	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."
A12314 45	7241	P18395	7242	AY049788	7243	O75534	7244	94.37	Rat unr mRNA for unr protein with unknown function	rc_A1231445 EST228133 Rattus norvegicus cDNA, 3 end /clone=REMDK26 /clone_end=3 /gb=A1231445 /ug=Rn.3562 /len=528	Cytoplasmic. UNR protein.
A12314 45	7245	P18395	7246	AY049788	7247	O75534	7248	94.37	Rat unr mRNA for unr protein with unknown function	rc_A1231445 EST228133 Rattus norvegicus cDNA, 3 end /clone=REMDK26 /clone_end=3 /gb=A1231445 /ug=Rn.3562 /len=528	Cytoplasmic. UNR protein.
A12320 12	7249	BAB223	7250	BC001016	7251	P51970	7252	89.57	Homo sapiens NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 8	rc_A1232012 EST228700 Rattus norvegicus cDNA, 3 end /clone=RHECR46 /clone_end=3 /gb=A1232012 /ug=Rn.11128 /len=586	

Table 2.

A12320 78	7253	Q00918	7254	AF039843	7255	O43597	7256	94.31	Transforming growth factor-beta (TGF-beta) masking protein large subunit	NM_02158 7	rc_A1232078 EST228766 Rattus norvegicus cDNA, 3 end /clone=RKIBW60 /clone_end=3 /gb=A1232078 /ug=Rn.11340 /len=597	"Latent transforming growth factor beta binding protein 1 precursor(Transforming growth factor beta-1 binding protein 1) (TGF-beta-BP-1)" (Transforming growth factor beta-1 masking protein, large subun"
A12320 96	7257	Q63424	7258	NM_0210 82	7259	Q16348	7260	76	Solute carrier family 15 (H+/peptide transporter), member 2	NM_03167 2	rc_A1232096 EST228784 Rattus norvegicus cDNA, 3 end /clone=RKIBW79 /clone_end=3 /gb=A1232096 /ug=Rn.2593 /len=594	"Oligopeptide transporter, kidney isoform (Peptide transporter 2)(Kidney H+/peptide cotransporter)."
A12323 7261	No Rat Protein Found.								Mus musculus 13 days embryo liver cDNA, RIKEN		rc_A1232321 EST229009 Rattus norvegicus cDNA, 3 end /clone=RKICa22 /clone_end=3 /gb=A1232321 /ug=Rn.24630 /len=590	
A12323 74	P43278	7263	NM_0053 18	7264	P07305	7265	85	histone H1-0	NM_01257 8	rc_A1232374 EST229062 Rattus norvegicus cDNA, 3 end /clone=RKICa88 /clone_end=3 /gb=A1232374 /ug=Rn.3129 /len=609	Nuclear.	
A12323 74	P43278	7267	NM_0053 18	7268	P07305	7269	85	histone H1-0	NM_01257 8	rc_A1232374 EST229062 Rattus norvegicus cDNA, 3 end /clone=RKICa88 /clone_end=3 /gb=A1232374 /ug=Rn.3129 /len=609	Nuclear.	

Table 2.

A12332 61	7270	P48508	7271	L35546	7272	P48507	7273	91.6	Glutamate-cysteine ligase (gamma-glutamylcysteine synthetase), regulatory	rc_A1233261 EST229949 Rattus norvegicus cDNA, 3 end /clone=RKIDC84 /clone_end=3 /gb=A1233261 /ug=Rn.2460 /len=629	Glutamate--cysteine ligase regulatory subunit (EC 6.3.2.2) (Gamma-glutamylcysteine synthetase) (Gamma-ECS) (GCS light chain)(Glutamate--cysteine ligase modifier subunit).
A12332 61	7274	P48508	7275	L35546	7276	P48507	7277	91.6	Glutamate-cysteine ligase (gamma-glutamylcysteine synthetase), regulatory	rc_A1233261 EST229949 Rattus norvegicus cDNA, 3 end /clone=RKIDC84 /clone_end=3 /gb=A1233261 /ug=Rn.2460 /len=629	Glutamate--cysteine ligase regulatory subunit (EC 6.3.2.2) (Gamma-glutamylcysteine synthetase) (Gamma-ECS) (GCS light chain)(Glutamate--cysteine ligase modifier subunit).
A12349 50	7278	P20611	7279	BC003160	7280	P11117	7281	86	Acid phosphatase 2, lysozymal	NM_01698 rc_A1234950 EST231512 Rattus norvegicus cDNA, 3 end /clone=ROVCJ96 /clone_end=3 /gb=A1234950 /ug=Rn.9816 /len=501	Lysosomal acid phosphatase precursor (EC 3.1.3.2) (LAP).
A12353 58	7282	No Rat Protein Found,	J04973	7283	P22655	7284	88.05	Cytochrome bc-1 complex core P	S74321 rc_A1235358 EST231920 Rattus norvegicus cDNA, 3 end /clone=ROVCQ84 /clone_end=3 /gb=A1235358 /ug=Rn.2334 /len=554		

Table 2.

A12357 07	7285	P35565	7286	L10284	7287	P27824	7288	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_A1235707 EST232269 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A1235707 /ug=Rn.1762 /len=471
A12357 07	7290	L10284	7291	P27824	7292		84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_A1235707 EST232269 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A1235707 /ug=Rn.1762 /len=471	
A12357 07	7293	P35565	7294	L10284	7295	P27824	7296	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_A1235707 EST232269 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A1235707 /ug=Rn.1762 /len=471
A12357 07	7297	P35565	7298	L10284	7299	P27824	7300	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_A1235707 EST232269 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A1235707 /ug=Rn.1762 /len=471
A12357 47	7301	P04904	7302	NM_000847	7303	Q16772	7304	89.73	Glutathione S-transferase Ya subunit	M26874 rc_A1235747 EST232309 Rattus norvegicus cDNA, 3 end /clone_end=533 /gb=A1235747 /ug=Rn.1024
A12372 58	NP_856	113	7306	XIM_027809		XP_027809		57	MYB binding protein (P160) 1a	NM_03166 rc_A1237258 EST233820 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A1237258 /ug=Rn.6881 /len=434
A12376 54	No Rat Protein Found.			AW601963	7308	XP_002093	7309	90.78	Rattus norvegicus clone N27 mRNA	U30789 rc_A1237654 EST234216 Rattus norvegicus cDNA, 3 end /clone_end=3 /gb=A1237654 /ug=Rn.2758 /len=689

Table 2.

A16389 39	7310	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Homo sapiens, clone MGC:16797 IMAGE:38579 55	Rat mixed-tissue library Rattus norvegicus cDNA clone r200769 3 , mRNA sequence [Rattus norvegicus]
A16389 55	7311	AAK642 87	7312	ALC09266 7316	ALC09266 7317	O43251 7314	96.88 RNA binding motif protein 9 (RBM9), BC002124
A16389 55	7315	AAK642 87	7316	ALC09266 7317	O43251 7318	96.88 RNA binding motif protein 9 (RBM9), BC002124	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03289 3 , mRNA sequence [Rattus norvegicus]
A16389 58	7319	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01189 3 , mRNA sequence [Rattus norvegicus]
A16389 60	7320	No Rat Protein Found.		AK027250 7321	No	90.18 EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00909 3 , mRNA sequence [Rattus norvegicus]
A16389 60	7322	No Rat Protein Found.		AK027250 7323	No	90.18 EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00909 3 , mRNA sequence [Rattus norvegicus]
A16389 65	7324	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04769 3 , mRNA sequence [Rattus norvegicus]
A16389 74	7325	NP_034 358	7326	NM_0020 19	Q15942 7327	7328	Mus musculus NM_01022 8
A16389 89	7329	AAD04 329	7330	XM_03173 6	XP_031 736	Mus musculus AF060246 strain C57BL/6 zinc finger protein 106	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01268 3 , mRNA sequence [Rattus norvegicus]
A16389 97	7331	No Rat Protein Found.		XM_04609 4	XP_046 094	7333	Homo sapiens hypothetical protein FLJ20086
							Rat mixed-tissue library Rattus norvegicus cDNA clone rx05048 3 , mRNA sequence [Rattus norvegicus]

Table 2.

A16390 01	7334	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02427 3 , mRNA sequence [Rattus norvegicus]
A16390 01	7335	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02427 3 , mRNA sequence [Rattus norvegicus]
A16390 02	7336	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03287 3 , mRNA sequence [Rattus norvegicus]
A16390 19	7337	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01107 3 , mRNA sequence [Rattus norvegicus]
A16390 23	7338	AAC60 679		A1346253 7340	XP_046 406	89.32 Kv3.3b=Shaw type potassium channel {alternatively spliced} (mouse)	S69381 Rat mixed-tissue library Rattus norvegicus cDNA clone rx01887 3 , mRNA sequence [Rattus norvegicus]
A16390 34	7341	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus X chromosome	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02766 3 , mRNA sequence [Rattus norvegicus]
A16390 76	7342	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04025 3 , mRNA sequence [Rattus norvegicus]
A16390 79	7343	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04945 3 , mRNA sequence [Rattus norvegicus]
A16390 88	7344	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx0364 3 , mRNA sequence [Rattus norvegicus]
A16390 97	7345	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01264 3 , mRNA sequence [Rattus norvegicus]

Table 2.

A16391 02	7346	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01844 3 , mRNA sequence [Rattus norvegicus]
A16391 14	7347	No Rat Protein Found.	AI1192090	7348	No Human Protein Found.	86.3 EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05044 3 , mRNA sequence [Rattus norvegicus]
A16391 18	7349	184505	AK000768	7350	BAB134 17	90.37 ESTs, Moderately similar to I84505 calcium-dependent actin-binding protein - rat	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02683 3 , mRNA sequence [Rattus norvegicus]
A16391 18	7352	184505	AK000768	7353	BAB134 17	90.37 ESTs, Moderately similar to I84505 calcium-dependent actin-binding protein - rat	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02683 3 , mRNA sequence [Rattus norvegicus]
A16391 20	7355	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02423 3 , mRNA sequence [Rattus norvegicus]
A16391 23	7356	AAC40 148	7357	AB044807	7358 83	BAB196 7359 83 Channel interacting PDZ domain protein	AF060539 Rat mixed-tissue library Rattus norvegicus cDNA clone rx02943 3 , mRNA sequence [Rattus norvegicus]
A16391 25	7360	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03063 3 , mRNA sequence [Rattus norvegicus]
A16391 30	7361	BAB298 98	7362	No human homolog found.	No Human Protein Found.	Rat EST; mouse hypothetical protein from a Riken	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00643 3 , mRNA sequence [Rattus norvegicus]
A16391 32	7363	No Rat Protein Found.	BG722716	7364	No Human Protein Found.	94.5 EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01263 3 , mRNA sequence [Rattus norvegicus]

Table 2.

AI6391 39	7365	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3 , mRNA sequence [Rattus norvegicus]
AI6391 39	7366	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3 , mRNA sequence [Rattus norvegicus]
AI6391 39	7367	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3 , mRNA sequence [Rattus norvegicus]
AI6391 39	7368	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3 , mRNA sequence [Rattus norvegicus]
AI6391 51	NP_032 917	7370	AF195139	7371	AAG339 41	7372	Pinin NM_00889 1
AI6391 51	NP_032 917	7374	AF195139	7375	AAG339 41	7376	Pinin NM_00889 1
AI6391 53	NP_031 417	7378	M82967	7379	P26436	7380	Mus musculus acrosomal vesicle protein NM_00739 1
AI6391 54							EST (not recognized)
AI6391 57	P41123	7383	AK026501	7384	P26373	7385	94.64 Deoxyribonucl ease I (DNaseI) Mus musculus 18 days embryo cDNA, RIKEN
AI6391 62							Rat mixed-tissue library Rattus norvegicus cDNA clone rx00682 3 , mRNA sequence [Rattus norvegicus]
AI6391 65			XM_01715 2		XP_017 152		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01762 3 , mRNA sequence [Rattus norvegicus]
							60S ribosomal protein L13.

Table 2.

A16391 69	7388	No Rat Protein Found.	BM01590 0	7389	No Human Protein Found.		90.84	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04422 3 , mRNA sequence [Rattus norvegicus]
A16391 69	7390	No Rat Protein Found.	BM01590 0	7391	No Human Protein Found.		90.84	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04422 3 , mRNA sequence [Rattus norvegicus]
A16391 72	7392	AAC53 530	7393	271188	7394	Q14493	7395	84.17 Histone stem- loop binding protein	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05062 3 , mRNA sequence [Rattus norvegicus]
A16391 76	7396	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02641 3 , mRNA sequence [Rattus norvegicus]
A16391 87	7397	AAH05 702	7398	No human homolog found.	No Human Protein Found.			Rat EST; mouse hypothetical protein from a Riken	Rat mixed-tissue library Rattus norvegicus cDNA clone rx0961 3 , mRNA sequence [Rattus norvegicus]
A16391 88	7399	AAC05 725	7400	XM_01055 7	XP_010 557			Mus musculus RNA helicase A (Ddx9)	U91922 Rat mixed-tissue library Rattus norvegicus cDNA clone rx01621 3 , mRNA sequence [Rattus norvegicus]
A16391 96	7401	NP_076 447	7402	AB007884	7403	NP_056 000	7404	93.49 Rattus norvegicus collibistin I	NM_02395 7 Rat mixed-tissue library Rattus norvegicus cDNA clone rx05001 3 , mRNA sequence [Rattus norvegicus]
A16392 09	7405	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx06680 3 , mRNA sequence [Rattus norvegicus]
A16392 15	7406	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01040 3 , mRNA sequence [Rattus norvegicus]
A16392 36	7407	AAF694 79	7408	No human homolog found.	No Human Protein Found.			EST (Mus musculus clone BAC126c8 Rsp29-like protein (Rsp29) and Als splice variant 2 (Als) genes)	AF220294 Rat mixed-tissue library Rattus norvegicus cDNA clone r200757 3 , mRNA sequence [Rattus norvegicus]

Table 2.

A16392 45	7409	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r02839 3 , mRNA sequence [Rattus norvegicus]
A16392 55	7410	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01039 3 , mRNA sequence [Rattus norvegicus]
A16392 55	7411	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01039 3 , mRNA sequence [Rattus norvegicus]
A16392 55	7412	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01039 3 , mRNA sequence [Rattus norvegicus]
A16392 55	7413	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01039 3 , mRNA sequence [Rattus norvegicus]
A16392 56	7414	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01019 3 , mRNA sequence [Rattus norvegicus]
A16392 56	7415	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01019 3 , mRNA sequence [Rattus norvegicus]
A16392 64	7416	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04879 3 , mRNA sequence [Rattus norvegicus]
A16392 82	7417	NP_112 625	7418	XM_03923 8	XP_039 238	98 Rattus norvegicus polymerase II 5	Rat mixed-tissue library Rattus norvegicus cDNA clone r01218 3 , mRNA sequence [Rattus norvegicus]
A16392 85	7419	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus 18 days embryo cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone r01438 3 , mRNA sequence [Rattus norvegicus]
A16393 15	7420	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04457 3 , mRNA sequence [Rattus norvegicus]

Table 2.

Af6393 17	7421	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04857 3 , mRNA sequence [Rattus norvegicus]
Af6393 18	7422	CAC10 568	7423	NM_0206 30	7424	P07949	94.61 receptor tyrosine kinase:RET gene
Af6393 20	7426	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04977 3 , mRNA sequence [Rattus norvegicus]
Af6393 24	7427	No Rat Protein Found.		AF177339	7428	No	92.59 Homo sapiens clone SP329 unknown mRNA
Af6393 24	7430	No Rat Protein Found.		AF177339	7431	No	92.59 Homo sapiens clone SP329 unknown mRNA
Af6393 29	7433	No Rat Protein Found.		No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx0376 3 , mRNA sequence [Rattus norvegicus]
Af6393 36	7434	NP_061 229	7435	BG190460	7436	No	88.46 Mus musculus zinc finger protein 326 (Zfp326)
Af6393 42	7437	No Rat Protein Found.		No human homolog found.	No Human Protein Found.	Mus musculus 10 days embryo cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01356 3 , mRNA sequence [Rattus norvegicus]
Af6393 43	7438	No Rat Protein Found.		No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04036 3 , mRNA sequence [Rattus norvegicus]
Af6393 47	7439	No Rat Protein Found.		No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04496 3 , mRNA sequence [Rattus norvegicus]

Table 2.

Af6393 65	7440	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03935 3 , mRNA sequence [Rattus norvegicus]
Af6393 90	7441	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02134 3 , mRNA sequence [Rattus norvegicus]
Af6393 91	7442	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02754 3 , mRNA sequence [Rattus norvegicus]
Af6393 93	7443	No Rat Protein Found.	AF021351	7444	O14802	7445	ESTs, Highly similar to RPC1_HUMA NDNA- DIRECTED RNA POLYMERAS E III LARGEST SUBUNIT [H.sapiens]
Af6394 10	7446	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus adult male lung cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04114 3 , mRNA sequence [Rattus norvegicus]
Af6394 10	7447	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus adult male lung cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04114 3 , mRNA sequence [Rattus norvegicus]
Af6394 25	7448	No Rat Protein Found.	BE792880	7449	No Human Protein Found.	85.05	EST (not recognized)
Af6394 25	7450	No Rat Protein Found.	BE792880	7451	No Human Protein Found.	85.05	EST (not recognized)
Af6394 27	7452	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00313 3 , mRNA sequence [Rattus norvegicus]
							Rat mixed-tissue library Rattus norvegicus cDNA clone rx00313 3 , mRNA sequence [Rattus norvegicus]

Table 2.

A16394 27	7453	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx0133 3 , mRNA sequence [Rattus norvegicus]
A16394 34	7454	No Rat Protein Found.	1	AW60352	7455	No Human Protein Found.	EST (not recognized)
A16394 38	7456	AAK842 14	7457	AY033141	7458	Q969F9	95.52 EST (not recognized)
A16394 43	7460	No Rat Protein Found.	XM_03124 6	7461	XP_031 246	7462	Mouse Hermannsky- Pudlak syndrome type 3 protein (Hps3)
A16394 61	7463	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Roundabout (axon guidance receptor, <i>Drosophila</i>) homolog 2	EST (not recognized)
A16394 65	7464	No Rat Protein Found.	AF361946	7465	Q969Q1	7466	91.32 EST (not recognized)
A16394 65	7467	No Rat Protein Found.	AF361946	7468	Q969Q1	7469	91.32 EST (not recognized)
A16394 71	7470	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	EST (not recognized)
A16394 71	7471	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	EST (not recognized)
A16394 74	7472	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus 10 days embryo cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04752 3 , mRNA sequence [Rattus norvegicus]
							Rat mixed-tissue library Rattus norvegicus cDNA clone rx04832 3 , mRNA sequence [Rattus norvegicus]

Table 2.

A16394 84	7473	No Rat Protein Found.	AK000592	7474	No Human Protein Found.	7475	96.12	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02471 3 , mRNA sequence [Rattus norvegicus]
A16394 84	7476	No Rat Protein Found.	AK000592	7477	No Human Protein Found.	7478	96.12	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02471 3 , mRNA sequence [Rattus norvegicus]
A16394 88	7479	AAA911 67	7480	NM_0023 92	7481	Q9UJT 8	7482	66	Mdm2 (mouse double minute 2)
A16394 90	7483	No Rat Protein Found.	XM_03142 3	XP_031 423		Homo sapiens PHD zinc finger transcription factor (PF1)			Rat mixed-tissue library Rattus norvegicus cDNA clone rx02931 3 , mRNA sequence [Rattus norvegicus]
A16394 94	7484	P11345	7485	X06409	7486	P04049	7487	95.42	Mus musculus Makorin RING zinc-finger protein 2
A16394 99	7488	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00871 3 , mRNA sequence [Rattus norvegicus]
A16395 01	7489	No Rat Protein Found.	NM_0314 42	7490	NP_113 630	7491		Hypothetical protein DKFZp76J17 121 [Homo sapiens].	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01371 3 , mRNA sequence [Rattus norvegicus]
A16395 04	7492	No Rat Protein Found.	BI517972	7493	Q9BR76	7494	84.21	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04791 3 , mRNA sequence [Rattus norvegicus]
A16395 16	7495	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00390 3 , mRNA sequence [Rattus norvegicus]

Table 2.

A16395 18	7496	AAD19 908	7497	Z49199	7498	P52434	7499	91.2	ESTs, Highly similar to RPB8_HUMA N DNA- DIRECTED RNA POLYMERAS ES I, II, AND III 17.1 KD POLYPEPTID E	AF105004	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00570 3 , mRNA sequence [Rattus norvegicus]
A16395 20	7500	No Rat Protein Found.	A1919101	7501	No Human Protein Found.		88.69	EST(not recognised)			Rat mixed-tissue library Rattus norvegicus cDNA clone rx01210 3 , mRNA sequence [Rattus norvegicus]
A16395 25	7502	AAK686 36	7503	XM_04361 2	XP_043 612		67	adiponutrin	AY037763		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01430 3 , mRNA sequence [Rattus norvegicus]
A16395 34	7504	CAA31 389	7505	X57748	7506	P27918	7507	87.04	Mouse mRNA for proprdin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02081 3 , mRNA sequence [Rattus norvegicus]
A16395 34	7508	CAA31 389	7509	X57748	7510	P27918	7511	87.04	Mouse mRNA for proprdin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02081 3 , mRNA sequence [Rattus norvegicus]
A16395 34	7512	CAA31 389	7513	X57748	7514	P27918	7515	87.04	Mouse mRNA for proprdin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02081 3 , mRNA sequence [Rattus norvegicus]
A16395 34	7516	CAA31 389	7517	X57748	7518	P27918	7519	87.04	Properdin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02081 3 , mRNA sequence [Rattus norvegicus]
H31217 7520	No Rat Protein Found.	No human homolog found.		No Human Protein Found.				EST (not recognized)	rc_H31217 EST105044 Rattus norvegicus cDNA_3_end /clone=RPCAF34 /clone_end=3 /gb=H31217 /gi=976634 /ug=Rn.7213 /len=373		
H31342 7521	No Rat Protein Found.	No human homolog found.		No Human Protein Found.				EST(not recognised)	rc_H31342 EST105294 Rattus norvegicus cDNA_3_end /clone=RPCAH74 /clone_end=3 /gb=H31342 /gi=978759 /ug=Rn.14563 /len=362		
H31418 7522	No Rat Protein Found.	No human homolog found.		No Human Protein Found.				Mus musculus adult male testis cDNA, RIKEN	rc_H31418 EST105434 Rattus norvegicus cDNA_3_end /clone=RPCAJ31 /clone_end=3 /gb=H31418 /gi=976835 /ug=Rn.21416 /len=341		

Table 2.

H31479	7523	No Rat Protein Found.	AL080181	7524	AAF690 29	7525	96.41	Nectin-like protein 2	rc_H31479 EST105544 Rattus norvegicus cDNA, 3 end /clone=RPCAL22 /clone_end=3 /gb=H31479 /gi=976896 /ug=Rn.14570 /len=375	
H31479	7526	No Rat Protein Found.	AL080181	7527	AAF690 29	7528	96.41	Nectin-like protein 2	rc_H31479 EST105544 Rattus norvegicus cDNA, 3 end /clone=RPCAL22 /clone_end=3 /gb=H31479 /gi=976896 /ug=Rn.14570 /len=375	
H31550	7529	No Rat Protein Found.	AK023265	7530	No Human Protein Found.	7531	88.77	Homo sapiens BAC clone RP11-152F13 from 15	rc_H31550 EST105682 Rattus norvegicus cDNA, 3 end /clone=RPCAP82 /clone_end=3 /gb=H31550 /gi=977967 /ug=Rn.14572 /len=360	
H31588	7532	No Rat Protein Found.	AA947174	7533	No Human Protein Found.		92.74	Mus musculus AK008856 adult male stomach cDNA, RIKEN	rc_H31588 EST105764 Rattus norvegicus cDNA, 3 end /clone=RPCAR49 /clone_end=3 /gb=H31588 /gi=977005 /ug=Rn.25545 /len=343	
H31590	7534	No Rat Protein Found.			No Human Protein Found.			EST(not recognised)	rc_H31590 EST105767 Rattus norvegicus cDNA, 3 end /clone=RPCAR52 /clone_end=3 /gb=H31590 /gi=977007 /ug=Rn.14574 /len=498	
H31665	7535	No Rat Protein Found.			No human homolog found.			Mus musculus adult male stomach cDNA, RIKEN	rc_H31665 EST105952 Rattus norvegicus cDNA, 3 end /clone=RPCAV66 /clone_end=3 /gb=H31665 /gi=977082 /ug=Rn.23735 /len=349	
H31695	7536	No Rat Protein Found.			No human homolog found.			EST (not recognized)	rc_H31695 EST106010 Rattus norvegicus cDNA, 3 end /clone=RPCAW36 /clone_end=3 /gb=H31695 /gi=977112 /ug=Rn.14583 /len=340	
H31802	7537	S12207			No human homolog found.			EST, Moderately similar to S12207 hypothetical protein [M.musculus]	rc_H31802 EST106213 Rattus norvegicus cDNA, 3 end /clone=RPCAY40 /clone_end=3 /gb=H31802 /gi=977219 /ug=Rn.14594 /len=518	
H31887	7538	No Rat Protein Found.	AK024220	7539	No Human Protein Found.		7540	91.27	Mus musculus RIKEN cDNA 1700037H04 gene	rc_H31887 EST106421 Rattus norvegicus cDNA, 3 end /clone=RPCBC38 /clone_end=3 /gb=H31887 /gi=977304 /ug=Rn.14601 /len=445

Table 2.

H31897	7541	No Rat Protein Found.	AA033555	7542	No Human Protein Found.		89.38	EST (not recognized)	rc_H31897 EST108437 Rattus norvegicus cDNA, 3 end /clone=RPCBC56 /clone_end=3 /gb=H31897 /gi=977314 /ug=Rn.21418 /len=373
H31914	7543	P13383	7544	M60858	7545	P19338	7546	84	Nucleolin
H31955	7547	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_H31914 EST108462 Rattus norvegicus cDNA, 3 end /clone=RPCBC88 /clone_end=3 /gb=H31914 /gi=977331 /ug=Rn.23826 /len=397
H31964	7548	No Rat Protein Found.	AK025590	7549	No Human Protein Found.		89.32	EST (not recognized)	rc_H31955 EST106538 Rattus norvegicus cDNA, 3 end /clone=RPCBD66 /clone_end=3 /gb=H31955 /gi=977372 /ug=Rn.14604 /len=270
H31982	7550	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Rattus norvegicus clone RP31-223K12	rc_H31964 EST106549 Rattus norvegicus cDNA, 3 end /clone=RPCBD78 /clone_end=3 /gb=H31964 /gi=977381 /ug=Rn.14605 /len=219
H31990	7551	No Rat Protein Found.	AW01628	7552	No Human Protein Found.		83.19	EST(not recognised)	rc_H31982 EST106584 Rattus norvegicus cDNA, 3 end /clone=RPCBE17 /clone_end=3 /gb=H31982 /gi=977399 /ug=Rn.7138 /len=363
H32977	7553	BAB255	7554	XM_04479	XP_044794				rc_H31990 EST106597 Rattus norvegicus cDNA, 3 end /clone=RPCBE27 /clone_end=3 /gb=H31990 /gi=977407 /ug=Rn.22664 /len=367
H33086	7555	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus, Similar to protein kinase, cAMP dependent regulatory, type I beta, clone MGC:18526 IMAGE:3674751	rc_H32977 EST108553 Rattus norvegicus cDNA, 3 end /clone=RPNAB17 /clone_end=3 /gb=H32977 /gi=978394 /ug=Rn.14617 /len=396
H33101	7556	No Rat Protein Found.	No human homolog found.		No Human Protein Found.				rc_H33101 EST108750 Rattus norvegicus cDNA, 3 end /clone=RPNAG73 /clone_end=3 /gb=H33086 /gi=978503 /ug=Rn.14623 /len=347
									rc_H33101 EST108789 Rattus norvegicus cDNA, 3 end /clone=RPNAH27 /clone_end=3 /gb=H33101 /gi=978518 /ug=Rn.9269 /len=351

Table 2.

H33219	7557	No Rat Protein Found.	XM_002656	XP_002656				rc_H33219 EST109005 Rattus norvegicus cDNA, 3 end /clone=RPNAJ82 /clone_end=3 /gb=H33219 /gi=978836 /ug=Rn.8101 /len=381
H33426	7558	NP_031824	7559	NM_001908	7560	P07858	7561	Mus musculus NM_00779 cathepsin B (LOW HOMOLOGY)
H33426	7562	NP_031824	7563	NM_001908	7564	P07858	7565	Mus musculus NM_00779 cathepsin B (LOW HOMOLOGY)
H33459	7566	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.			Mus musculus adult male small intestine cDNA, RIKEN
H33459	7567	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.			Mus musculus adult male small intestine cDNA, RIKEN
H33461	7568	AAK29401	7569	BG718301	7570	XP_018286	92.54	Rattus norvegicus nucleolar protein C7C mRNA, complete cds
H33467	7571	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.	EST(not recognised)		rc_H33467 EST109500 Rattus norvegicus cDNA, 3 end /clone=RPNAS30 /clone_end=3 /gb=H33467 /gi=978884 /ug=Rn.14641 /len=352

Table 2.

H33491	7572	Q9JJ46	7573	Z37986	7574	Q15125	7575	83.33	sterol delta 8-isomerase	AF071501	rc_H33491 EST109547 Rattus norvegicus cDNA, 3 end /clone=RPNAS68 /gi=Rn.19436 /gb=H33491 /len=569	"3-beta-hydroxysteroid-delta(8),delta(7)-isomerase (EC 5.3.3.5)(Cholestenol delta-isomerase) (Delta8-delta7 sterol isomerase) (D8-D7sterol isomerase) (Emopamil binding protein)."
H33614	7576	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_H33614 EST109780 Rattus norvegicus cDNA, 3 end /clone=ATCC-2004067 /clone_end=3 /gb=H33614 /gi=979031 /ug=Rn.14683 /len=224	
H33636	7577	AAB34938	7578	NM_003629	7579	Q92569	7580		Mouse p55PIK=phos phatidylinositol 3-kinase regulatory subunit	S79169	rc_H33636 EST109819 Rattus norvegicus cDNA, 3 end /clone=RPNAV07 /clone_end=3 /gb=H33636 /gi=979053 /ug=Rn.14653 /len=411	
H33651	7581	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST109846 PC-12 cells, NGF-treated (9 days)	U31908	rc_H33651 EST109846 Rattus norvegicus cDNA, 3 end /clone=RPNAV67 /clone_end=3 /gb=H33651 /gi=979068 /ug=Rn.14654 /len=447	
H33656	7582	AAA75174	7583	NM_003636	7584	Q13303	7585	98	Potassium channel beta 2 subunit		rc_H33656 EST109855 Rattus norvegicus cDNA, 3 end /clone=RPNAV94 /clone_end=3 /gb=H33656 /gi=979073 /ug=Rn.14656 /len=360	
H33660	7586	No Rat Protein Found.		AK058044	7587	No	7588	82	EST (not recognised)		rc_H33660 EST109859 Rattus norvegicus cDNA, 3 end /clone=RPNAW03 /clone_end=3 /gb=H33660 /gi=979077 /ug=Rn.3331 /len=389	
S45392	7589	AAB23369	7590	NM_007355	7591	P08238	7592	85	heat shock protein 90 [rats, brain, mRNA, 2524 nt]	AI008074	S45392 heat shock protein 90 [rats, brain, mRNA, 2524 nt]	

Table 2.

S45812	7593	190315 9A	M68840	7594	P21397	7595	91	ESTs, Highly similar to: 1903159A monoamine oxidase A [R. norvegicus]	S45812 monoamine oxidase A [rats, liver, mRNA Partial, 2104 nt]
S46785	7596	P35859	7597	M86826	7598	P35858	7599	77	Rattus norvegicus insulin-like growth factor binding protein complex acid-labile subunit [rats, liver, mRNA, 2190 nt]
S47609	7600	AAA118 88	7601	S46950	7602	P29274	7603	74	A2 adenosine receptor [rats, striatum, mRNA, 2141 nt]
S50879	7604	AAB245 86	7605	NM_0006 65	7606	P22303	7607	82	Acetylcholinesterase T subunit [rats, mRNA Partial, 2066 nt]
S50879	7608	AAB245 86	7609	NM_0006 65	7610	P22303	7611	82	Acetylcholinesterase T subunit [rats, mRNA Partial, 2066 nt]
S50879	7612	AAB245 86	7613	NM_0006 65	7614	P22303	7615	82	Acetylcholinesterase T subunit [rats, mRNA Partial, 2066 nt]
S50879	7616	AAB245 86	7617	NM_0006 65	7618	P22303	7619	82	Acetylcholinesterase T subunit [rats, mRNA Partial, 2066 nt]
S54008	7620	Q04589	7621	M37722	7622	P11362	7623	97	FGF receptor-1 Basic fibroblast growth factor receptor 1 beta-isoform [Rattus norvegicus=Norway rat, Sprague-Dawley, Kidneys, mRNA, 2520 nt] /cds=(300,2489)/gb=S54008/gi=264804 /ug=Rn.9797/len=2520
									Type 1 membrane protein. Basic fibroblast growth factor receptor 1 precursor (EC 2.7.1.112)(bFGF R-1) (bFGF-R) (MFR).

Table 2.

S55427	7624	AAB253 74	7625	S61788	7626	Q01453	7627	78	Myelin protein SR13=growth-arrest-SR13=growth-arrest-specific Gas-3 homolog [rats, sciatic nerve, mRNA, 1736 nt]
S56141	7628	AAA417 29	7629	XM_05259 6	XP_052 596		83	orphan transporter v7-3	L22022 sodium-dependent neurotransmitter transporter {clone via 1732} [rats, Sprague Dawley, ventral midbrain, mRNA, 3208 nt]
S56508	7630	AAB198 09	7631	XM_02911 1	XP_029 111		92	Phosphatidyl inositol 4-kinase	S56508 phosphatidylinositol 4-kinase [rats, brain, mRNA, 2573 nt]
S56937	7632	AAA423 12	7633	NM_0190 93	7634	NP_061 966	78	bilirubin UDP-glucuronosyltransferase	M34007 S56937 3-methylcholanthrene-inducible UDP-glucuronosyltransferase [rats, mRNA, 603 nt]
S58644	7636	AAB262 78	7637	No human homolog found.	No Human Protein Found.			integrin beta 5 subunit	S58644 integrin beta 5 subunit [rats, NRK cells, mRNA Partial, 603 nt]
S59525	7638	AAB264 20	7639	NM_0004 06	7640	P30968	7641	Gonadotropin-releasing hormone receptor	S59525 gonadotropin-releasing hormone receptor [rats, pituitary gland, mRNA, 2256 nt]
S62096	7642	AAB270 18	7643	NM_0045 81	7644	Q92696	7645	Rab geranylgeranyl transferase component B alpha subunit	S62096 Rab geranylgeranyl transferase component B alpha subunit [rats, brain, mRNA, 2672 nt]
S62097	7646	AAB270 19	7647	X98001	7648	P53611	7649	Rab geranylgeranyl transferase component B beta subunit; Rab GG transferase component B beta subunit [Rattus sp.]	S62097 Rab geranylgeranyl transferase component B beta subunit [rats, brain, mRNA, 1344 nt]
S63521	7650	No Rat Protein Found.	XM_04420 1		XP_044 201			Glucose-regulated protein GRP78	S63521 glucose-regulated protein GRP78 [rats, thyroid gland, mRNA, 1343 nt]

Table 2.

S63521	7651	No Rat Protein Found.	XM_04420 1	XP_044 201		Glucose-regulated protein GRP78		S63521 glucose-regulated protein GRP78 [rats, thyroid gland, mRNA, 1343 nt]
S65355	7652	AAB281	7653	NM_0001 15	7654	P24530	7655	86 nonselective-type endothelin receptor [rats, brain, mRNA, 2018 nt]
S65355	7656	AAB281	7657	NM_0001 15	7658	P24530	7659	86 nonselective-type endothelin receptor [rats, brain, mRNA, 2018 nt]
S65555	7660	AAB282	7661	NM_0020 61	7662	P48507	7663	92 Gamma-glutamylcysteine synthetase light chain [rats, kidney, mRNA, 1380 nt]
S65555	7664	AAB282	7665	NM_0020 61	7666	P48507	7667	92 Gamma-glutamylcysteine synthetase light chain [rats, kidney, mRNA, 1380 nt]
S65555	7668	AAB282	7669	NM_0020 61	7670	P48507	7671	92 Gamma-glutamylcysteine synthetase light chain [rats, kidney, mRNA, 1380 nt]
S65555	7672	AAB282	7673	NM_0020 61	7674	P48507	7675	92 Gamma-glutamylcysteine synthetase light chain [rats, kidney, mRNA, 1380 nt]
S66024	7676	AAB282	7677	U44836	7678	AAB037 51	7679	85 transcriptional repressor CREM [rats, pineal gland, mRNA, 436 nt]
S66024	7680	AAB282	7681	U44836	7682	AAB037 51	7683	85 transcriptional repressor CREM [rats, pineal gland, mRNA, 436 nt]
S66184	7684	NP_058	7685	NM_0023 17	7686	P28300	7687	Rattus norvegicus Lysyl oxidase (Lox), mRNA _01706 S66184 lysyl oxidase (3' region) [rats, fibroblasts, mRNA Partial, 253 nt]

Table 2.

S68809	7688	AAB205 39	7689	NM_0062 71	7690	P23297	7691	90	Rattus sp. S100 alpha mRNA, partial cds	S68809 S100 alpha [rats, kidney, mRNA Partial, 433 nt]
S69316	7692	AAH10 445	7693	XM_04913 1	XP_049 131				Tumor rejection antigen	BC010445 S69315S2 GRP94/endoplasmic [5 and 3 regions] [rats, KNRK cells, mRNA Partial, 195 nt, segment 2 of 2]
S69329	7694	AAB301 28	7695	XM_03434 2	XP_034 342		100	is- 1=homeobox {LIM domain}		S69329 is-1=homeobox [rats, keratinocytes, islet cell line RIN1056A, mRNA, 1060 nt]
S69329	7696	AAB301 28	7697	XM_03434 2	XP_034 342		100	is- 1=homeobox {LIM domain}		S69329 is-1=homeobox [rats, keratinocytes, islet cell line RIN1056A, mRNA, 1060 nt]
S70011	7698	AAB302 58	7699	NM_0309 71	7700	Q9BWM 7	7701	68	Tricarboxylate carrier mRNA, partial cds	S70011 tricarboxylate carrier [rats, liver, mRNA Partial, 2986 nt]
S70011	7702	AAB302 58	7703	NM_0309 71	7704	Q9BWM 7	7705	68	Tricarboxylate carrier mRNA, partial cds	S70011 tricarboxylate carrier [rats, liver, mRNA Partial, 2986 nt]
S70803	7706	AAB308 88	7707	No human homolog found.		No Human Protein Found.		Clone p10.15 product		S70803 clone p10.15 product [rats, osteosarcoma ROS17/2.8, mRNA, 737 nt]
S70803	7708	AAB308 88	7709	No human homolog found.		No Human Protein Found.		Clone p10.15 product		S70803 clone p10.15 product [rats, osteosarcoma ROS17/2.8, mRNA, 737 nt]
S70803	7710	AAB308 88	7711	No human homolog found.		No Human Protein Found.		Clone p10.15 product		S70803 clone p10.15 product [rats, osteosarcoma ROS17/2.8, mRNA, 737 nt]
S70803	7712	AAB308 88	7713	No human homolog found.		No Human Protein Found.		Clone p10.15 product		S70803 clone p10.15 product [rats, osteosarcoma ROS17/2.8, mRNA, 737 nt]
S71570	7714	AAB306 70	7715	XM_04434 8	XP_044 348		97	Ca2+/calmodulin-dependent protein kinase II isoform gamma-b [rats, aorta smooth muscle, mRNA Partial, 1764 nt]		S71570 Ca2+/calmodulin-dependent protein kinase II isoform gamma-b [rats, aorta smooth muscle, mRNA Partial, 1764 nt]

Table 2.

S71570	7716	AAB306	7717	XM_04434 6	XP_044 348	97	Ca2+/calmodulin-dependent protein kinase II isoform gamma-b [rats, aorta smooth muscle, mRNA Partial, 1764 nt]	
S72407	7718	AAC52	7719	XM_01138 7	XP_011 387	7721	laminin-2 alpha2 chain	U12147
S73007	7722	AAB206	7723	NM_0003 45	P37840	7725	synuclein SYN1	S73007 synuclein SYN1 {alternatively spliced} [rats, mRNA, 695 nt]
S73424	7726	AAB323	7727	NM_0024 15	P14174	7729	MIF=macrophage migration inhibitory factor [rats, liver, mRNA, 525 nt]	S73424 MIF=macrophage migration inhibitory factor [rats, liver, mRNA, 525 nt]
S74572	7730	AAB334	7731	XM_03087 8	XP_030 878	94	Mg2+ dependent protein phosphatase beta isoform {alternatively spliced}	S74572 Mg2+ dependent protein phosphatase beta isoform {alternatively spliced} [rats, brain, mRNA, 1503 nt]
S74572	7732	AAB334	7733	XM_03087 8	XP_030 878	94	Mg2+ dependent protein phosphatase beta isoform	S74572 Mg2+ dependent protein phosphatase beta isoform {alternatively spliced} [rats, brain, mRNA, 1503 nt]
S74572	7734	AAB334	7735	XM_03087 8	XP_030 878	94	Mg2+ dependent protein phosphatase beta isoform {alternatively spliced}	S74572 Mg2+ dependent protein phosphatase beta isoform {alternatively spliced} [rats, brain, mRNA, 1503 nt]
S74572	7736	AAB334	7737	XM_03087 8	XP_030 878	94	Mg2+ dependent protein phosphatase beta isoform	S74572 Mg2+ dependent protein phosphatase beta isoform {alternatively spliced} [rats, brain, mRNA, 1503 nt]

Table 2.

S74907	7738	AAB327	7739	XM_00657	7740	XP_006	7741	82	PP1M	M110=protein phosphatase 1M 110 kda regulatory subunit [rats, aorta, mRNA, 3300 nt]	
S75359	7742	AAB338	7743	NM_004329	7744	P36834	7745	95	Bone morphogenetic protein type IA receptor	S75359 bone morphogenetic protein type IA receptor [rats, mRNA, 3167 nt]	
S75359	7746	AAB338	7747	NM_004329	7748	P36834	7749	95	Bone morphogenetic protein type IA receptor	S75359 bone morphogenetic protein type IA receptor [rats, mRNA, 3167 nt]	
S75435	7750	AAB325	7751	M16768	7752	AAA6110	7753	46	TCR gamma C4L=T-cell receptor gamma chain	AI176307 TCR gamma C4L=T-cell receptor gamma chain [clone RG4] [rats, thymic lymphoma cell line cFTL53, mRNA, 1483 nt]	
S75435	7754	AAB325	7755	X72500	7756	CAA51165	7757	46	TCR gamma C4L=T-cell receptor gamma chain	S75435 TCR gamma C4L=T-cell receptor gamma chain [clone RG4] [rats, thymic lymphoma cell line cFTL53, mRNA, 1483 nt]	
S75997	7758	AAB333	7759	NM_016553	7760	P37198	7761	74	Nucleoporin p62 homolog	S75997 nucleoporin p62 homolog {inverted repeats} [rats, Sprague-Dawley, testis, mRNA Partial, 1134 nt]	
S76742	7762	AAB328	7763	NM_020208	7764	NP_064593	7765	84	neurotransmitter transporter rB21a	S76742 neurotransmitter transporter rB21a [rats, brain, mRNA, 1950 nt]	
S76758	7766	No Rat Protein Found.		AB038670	7767	BAB55545	7768		BDNF=brain-derived neurotrophic factor {alternatively spliced}	S76758 BDNF=brain-derived neurotrophic factor {alternatively spliced} [rats, brain, mRNA Partial, 711 nt]	
S77532	7769	AAB21103	7770	M31222	7771	P15923	7772	70	E12=helix-loop-helix transcription factor E12 homolog	S77532 E12=helix-loop-helix transcription factor E12 homolog [rats, mRNA Partial, 960 nt]	
S77858	7773	AAB34126	7774	M22919	7775	AAA59893	7776	99	Non-muscle myosin alkali light chain	AA894200 [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 613 nt]	

Table 2.

S77900	7777	AAB341	7778	XM_00950	7779	XP_009 501	7780	96	myosin regulatory light chain isoform C; myosin RLC isoform C	S77900 myosin regulatory light chain isoform C [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 1008 nt]
S77900	7781	AAB341	7782	XM_00950	7783	XP_009 501	7784	96	myosin regulatory light chain isoform C; myosin RLC isoform C	S77900 myosin regulatory light chain isoform C [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 1008 nt]
S78217	7785	AAB343	7786	NM_0027	7787	P36873	7788	100	protein phosphatase 1 gamma 1	S78217 protein phosphatase 1 gamma 1 [rats, striatum, mRNA Partial, 1508 nt]
S78218	7789	AAB343	7790	NM_0027	7791	P37140	7792	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7793	AAB343	7794	NM_0027	7795	P37140	7796	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7797	AAB343	7798	NM_0027	7799	P37140	7800	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7801	AAB343	7802	NM_0027	7803	P37140	7804	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78556	7805	AAB349	7806	NM_0041	7807	P38646	7808	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7809	AAB349	7810	NM_0041	7811	P38646	7812	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7813	AAB349	7814	NM_0041	7815	P38646	7816	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7817	AAB349	7818	NM_0041	7819	P38646	7820	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]

Table 2.

S78556	7821	AAB349 82	7822	NM_0041 34	7823	P38646	7824	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7825	AAB349 82	7826	NM_0041 34	7827	P38646	7828	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S79304	7829	AAB212 98	7830	No human homolog found.	No	Human Protein Found.	Rattus sp. cytochrome oxidase subunit I mRNA, partial cds, and tRNA Ser gene, complete sequence; mitochondrial genes for mitochondrial products	S79304 cytochrome oxidase subunit I, Ser- tRNA [rats, Sertoli cells, mRNA Mitochondrial, 987 nt]		
S79523	7831	P30836	7832	XM_04444 1	XP_04444 441		75	Lymphocyte membrane protein A.11	S79523 lymphocyte membrane protein A.11 {clone RS-2} [rats, Sprague-Dawley, thoracic duct lymphocytes (TDL), mRNA, 1580 nt]	Type I membrane protein. L-selectin precursor (Lymph node homing receptor) (Leukocyte adhesionmolecu- le-1) (LAM-1) (LY-22) (Lymphocyte surface MEL-14 antigen)(Leukoc- yte-endothelial cell adhesion molecule 1) (LECAM1) (CD62L).

Table 2.

S80376	7833	P38406	7834	L10665	7835	P38405	7836	G alpha off=GTP-binding protein Goff alpha subunit [alternatively spliced, clone 23] [rats, brain, Sprague-Dawley, mRNA Partial, 1924 nt]	
S81497	7837	AAB360 43	7838	U03464	7839	P38571	7840	72	Lysosomal acid lipase AA874784
S81497	7841	AAB360 43	7842	U03464	7843	P38571	7844	72	Lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt] S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt]
S81497	7845	AAB360 43	7846	U03464	7847	P38571	7848	72	Lysosomal acid lipase AA874784
S81497	7849	AAB360 43	7850	U03464	7851	P38571	7852	72	Lysosomal acid lipase AA874784
S81497	7853	AAB360 43	7854	U03464	7855	P38571	7856	72	Lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt] S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt]
S81497	7857	AAB360 43	7858	U03464	7859	P38571	7860	72	Lysosomal acid lipase AA874784
S82911	7861	AAB468 39	7862	NM_0227 16	7863	P54821	7864	95	rHox= protein S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt] S82911 rHox=rHox protein [rats, ROS 17/2.8 osteosarcoma cell line, mRNA, 1375 nt]
S83194	7865	AAB469 10	7866	NM_0322 94	7867	NP_115 670	7868	88	Ca2+/calmodulin-dependent protein kinase IV kinase isoform [rats, brain, mRNA, 3429 nt] S83194 Ca2+/calmodulin-dependent protein kinase IV kinase isoform [rats, brain, mRNA,

Table 2.

S83194	7869	AAB469 10	7870	NM_0322 94	7871	NP_115 670	7872	88	Ca2+/calmodulin-dependent protein kinase IV kinase isoform	S83194 Ca2+/calmodulin-dependent protein kinase IV kinase isoform [rats, brain, mRNA, 3429 nt]
S83279	7873	AAB495 19	7874	NM_0004 14	7875	P51659	7876	83	HSD IV=peroxisome proliferator-inducible gene	S83279 HSD IV=peroxisome proliferator-inducible gene [rats, F344, liver, mRNA Partial, 2480 nt]
S83279	7877	AAB495 19	7878	NM_0004 14	7879	P51659	7880	83	HSD IV=peroxisome proliferator-inducible gene	S83279 HSD IV=peroxisome proliferator-inducible gene [rats, F344, liver, mRNA Partial, 2480 nt]
S83320	7881	AAB507 33	7882	NM_0219 52	7883	P26378	7884	91	HuD=neurospecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7885	AAB507 33	7886	NM_0219 52	7887	P26378	7888	91	HuD=neurospecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7889	AAB507 33	7890	NM_0219 52	7891	P26378	7892	91	HuD=neurospecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7893	AAB507 33	7894	NM_0219 52	7895	P26378	7896	91	HuD=neurospecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7897	AAB507 33	7898	NM_0219 52	7899	P26378	7900	91	HuD=neurospecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7901	AAB507 33	7902	NM_0219 52	7903	P26378	7904	91	HuD=neurospecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83358	7905	AAB722 03	7906	L13616	7907	Q05397	7908	92	focal adhesion kinase (FAK)	S83358 focal adhesion kinase[pp125FAK/FAK + {alternatively spliced} [rats, striatum, mRNA, 4575 nt]

Table 2.

S85184	7909	AAB215 16	7910 12	NM_0019 12	7911 12	P07711 7912	75	Cyclic Protein- 2 (CP-2) mRNA, partial cds	S85184 Cyclic Protein-2=cathepsin L proenzyme [rats, Sertoli cells, mRNA, 1790 nt]
S85184	7913	AAB215 16	7914 12	NM_0019 12	7915 7916	P07711 7916	75	Cyclic Protein- 2 (CP-2) mRNA, partial cds	S85184 Cyclic Protein-2=cathepsin L proenzyme [rats, Sertoli cells, mRNA, 1790 nt]
S90449	7917	AAB218 98	7918 8	XM_03087 XP_030 878				Protein phosphatase 2C isoform, PP2C2	S90449 protein phosphatase 2C isoform [rats, liver, mRNA, 1950 nt]
U01227	7919	AAA521 82	7920 69	NM_0008 69	7921 69	P46098 7922	83	5HT3 receptor	U01227 RSU01227 Rattus sp. 5HT3 receptor subunit mRNA, partial cds
U01227	7923	AAA521 82	7924 69	NM_0008 69	7925 69	P46098 7926	83	5HT3 receptor	U01227 RSU01227 Rattus sp. 5HT3 receptor subunit mRNA, partial cds
U01344	7927	P50297	7928	U80835 6	7929 6	g224537 7930	76	Rattus norvegicus clone A-2 arylamine N- acetyltransfera se mRNA, complete cds	U01344 Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds /cds=(975,1847) /gb=U01344 /gi=786257 /ug=Rn.11112 /len=2533 /gi=
U02315	7931	P43322	7932	U02327 7933	Q12784 7934		96.92	Clone ndf04 neu differentiation factor mRNA, partial cds	U02315 Rattus norvegicus clone ndf04 neu differentiation factor mRNA, partial cds /cds=(0,694) /gb=U02315 /gi=408380 /ug=Rn.10311 /len=1043 /gi=
									EXISTS AS A TYPE I MEMBRANE PROTEIN AND AS A PROTEOLYTICALLY RELEASED SOLUBLE GROWTH FACTOR FORM. THE MEMBRANE- BOUND FORM DOES NOT SEEM TO BE ACTIVE.

Table 2.

U02315	7935	P43322	7936	U02327	7937	Q12784	7938	96.92	Clone ndf04 neu differentiation factor mRNA, partial cds	U02315 Rattus norvegicus clone ndf04 neu differentiation factor mRNA, partial cds /cds=(0..694) /gb=U02315 /gi=408380 /ug=Rn.10311 /len=1043	EXISTS AS A TYPE I MEMBRANE PROTEIN AND AS A PROTEOLYTICALLY RELEASED SOLUBLE GROWTH FACTOR FORM. THE MEMBRANE- BOUND FORM DOES NOT SEEM TO BE ACTIVE.
U02320	7939	AAA199 45	7940	NM_0139 57	7941	Q12784	7942	90	Rattus norvegicus clone ndf40 neu differentiation factor	U02320 RNU02320 Rattus norvegicus clone ndf40 neu differentiation factor mRNA, partial cds	
U02320	7943	AAA199 45	7944	NM_0139 57	7945	Q12784	7946	90	Rattus norvegicus clone ndf40 neu differentiation factor	U02320 RNU02320 Rattus norvegicus clone ndf40 neu differentiation factor mRNA, partial cds	

Table 2.

U02322	7947	P43322	7948	U02327	7949	Q12784	7950	96.92	Potassium channel, subfamily K, member 3 // Neu differentiation factor	U02322 Rattus norvegicus clone ndf42a neu differentiation factor mRNA, complete cds /cds=(344,2332) /gb=U02322 /gi=408394 /ug=Rn.10311 /len=2402	Pro-neuregulin-1 precursor (Pro-Neuregulin-1) (Contains: Neuregulin-1 Factor) (Neurotrophin-1 on factor) (Heregulin) (HRG) (Acetylcholine receptor-inducing activity) (Sensory and motor neuron-derived factor)(G)	EXISTS AS A TYPE I MEMBRANE PROTEIN AND AS A PROTEOLYTICALLY RELEASED SOLUBLE GROWTH FACTOR FORM. THE MEMBRANE-BOUND FORM DOES NOT SEEM TO BE ACTIVE.
U02506	7951	No Rat Protein Found.				No Human homolog found.			Rattus norvegicus clone 7 polymeric immunoglobulin receptor mRNA, 3' untranslated region microsatellite repeats	U02506UJTR#1 RN02506 Rattus norvegicus clone 7 polymeric immunoglobulin receptor mRNA, 3' untranslated region microsatellite repeats		
U02522	7952	Q62599	7953	NM_004689	7954	Q13330	7955	94.14	Mta1 (metastasis associated protein)	U02522 Rattus norvegicus Mta1 (mta1) mRNA, complete cds /cds=(96,2207) /gb=U02522 /gi=593252 /ug=Rn.5840 /len=2741	Metastasis-associated protein MTA1.	
U03414	7956	Q62609	7957	D82343	7958	Q99784	7959	94.72	Rattus norvegicus neuronal olfactomedin-related ER localized protein (D2Sut1e) mRNA, complete cds	U03414 Rattus norvegicus neuronal olfactomedin-related ER localized protein (D2Sut1e) mRNA, complete cds /cds=(238,615) /gb=U03414 /gi=442363 /ug=Rn.11005 /len=938	Endoplasmic reticulum lumen.	
											Noelin precursor (Neuronal olfactomedin-related ER localized protein)(Olfactomedin 1) (Pancortin) (1B426B).	

Table 2.

U04317	7960	AAA184 80	7961	AB012701	7962	Q01638	7963	85.71	Fit-1M	U04317 Rattus norvegicus Fit-1M (Fit-1) mRNA, complete cds /cds=(274, 974) /gb=U04317 /gi=488275 /ug=Rn.10072 /len=2065	Type I membrane protein.	
U04998	7964	Q62656	7965	M93426	7966	P23471	7967	90.23	Protein tyrosine phosphatase, receptor-type, zeta polypeptide	U04998 Rattus norvegicus Sprague-Dawley phosphacan mRNA, complete cds /cds=(105,4955) /gb=U04998 /gi=461371 /ug=Rn.10088 /len=6801	Protein-tyrosine phosphatase zeta precursor (EC 3.1.3.48) (R PTP-zeta) (Phosphacan) (3F8 chondroitin sulfate proteoglycan) (3H1 keratansulfate proteoglycan).	
U04998	7968	Q62656	7969	M93426	7970	P23471	7971	90.23	Protein tyrosine phosphatase, receptor-type, zeta polypeptide	U04998 Rattus norvegicus Sprague-Dawley phosphacan mRNA, complete cds /cds=(105,4955) /gb=U04998 /gi=461371 /ug=Rn.10088 /len=6801	Protein-tyrosine phosphatase zeta precursor (EC 3.1.3.48) (R PTP-zeta) (Phosphacan) (3F8 chondroitin sulfate proteoglycan) (3H1 keratansulfate proteoglycan).	
U05013	7972	P23711	7973	D21243	7974	P30519	7975	89	Heme oxygenase-2 non-reducing isoform	U05013 Rattus norvegicus Sprague-Dawley heme oxygenase-2 non-reducing isoform gene, complete cds /cds=(177,1124) /gb=U05013 /gi=501034 /ug=Rn.10241 /len=1815		
U05013	7976	P23711	7977	D21243	7978	P30519	7979	89	Heme oxygenase-2 non-reducing isoform	U05013 Rattus norvegicus Sprague-Dawley heme oxygenase-2 non-reducing isoform gene, complete cds /cds=(177,1124) /gb=U05013 /gi=501034 /ug=Rn.10241 /len=1815		

Table 2.

U05014	7980	AAA869 38	7981	NM_0040 95	7982	NP_0040 086	7983	92	Rattus norvegicus Sprague/Dawley PHAS-I mRNA, complete cds	AI178828	U05014 RNU05014 Rattus norvegicus Sprague/Dawley PHAS-I mRNA, complete cds
U05014	7984	AAA869 38	7985	NM_0040 95	7986	NP_0040 086	7987	92	Rattus norvegicus Sprague/Dawley PHAS-I mRNA, complete cds	AI178828	U05014 RNU05014 Rattus norvegicus Sprague/Dawley PHAS-I mRNA, complete cds
U05784	7988	Q82625	7989	H28835	7990	NP_073 729	7991	89.62	light chain 3 subunit of microtubule- associated proteins 1A and 1B.	U05784 Rattus norvegicus microtubule- associated proteins 1A and 1B light chain 3 subunit mRNA, complete cds /cds=(26,454) /gb=U05784 /gi=455108 /ug=Rn.8883 /len=861	Microtubule- associated proteins 1A/1B light chain 3 (MAP1A/MAP1 B LC3).
U06230	7992	I59618	M15036	7993	P07225	7994	88.41	Protein S		U06230 Rattus norvegicus protein S mRNA, partial cds /cds=(0,1040) /gb=U06230 /gi=497116 /ug=Rn.4845 /len=1589	
U06713	7995	A53770	7996	AK025273	7997	T42700	7998	91.6	Factor- responsive smooth muscle protein	U06713 Rattus norvegicus Sprague-Dawley SM-20 mRNA, complete cds /cds=(190,1257) /gb=U06713 /gi=469477 /ug=Rn.10994 /len=2825	
U06713	7999	A53770	8000	AK025273	8001	T42700	8002	91.6	Factor- responsive smooth muscle protein	U06713 Rattus norvegicus Sprague-Dawley SM-20 mRNA, complete cds /cds=(190,1257) /gb=U06713 /gi=469477 /ug=Rn.10994 /len=2825	
U06752	8003	AAA855 23	8004	AJ242542	8005	CAB856 06	8006	90.1	Fisher 344 pre- sialomucin complex (pSMC) mRNA, repeat sequences 10- 14, partial cds	U06752 RNMCAGP7 Rattus norvegicus Fisher 344 pre-sialomucin complex (pSMC) mRNA, repeat sequences 10-14, partial cds	

Table 2.

U07181	8007	P42123	8008	BF913405	8009	NP_002 291	8010	87.5	Lactate dehydrogenas e-B (LDH-B)	U07181 Rattus norvegicus lactate dehydrogenase-B (LDH-B) mRNA, complete cds /cds=(25,1029) /gb=U07181 /gi=473576 /ug=Rn.1785 /len=1217	Cytoplasmic. L-lactate dehydrogenase B chain (EC 1.1.1.27) (LDH- B) (LDH heartsubunit) (LDH-H).
U07181	8011	P42123	8012	BF913405	8013	NP_002 291	8014	87.5	Lactate dehydrogenas e-B (LDH-B)	U07181 Rattus norvegicus lactate dehydrogenase-B (LDH-B) mRNA, complete cds /cds=(25,1029) /gb=U07181 /gi=473576 /ug=Rn.1785 /len=1217	Cytoplasmic. L-lactate dehydrogenase B chain (EC 1.1.1.27) (LDH- B) (LDH heartsubunit) (LDH-H).
U08214	8015	AAA819 50	8016	XM_05040 5	XP_050 405			91	DNA binding protein (URE- B1)	U08214 RSU08214 Rattus sp. DNA binding protein (URE-B1) mRNA, complete cds	
U08257	8017	Q01812	8018	S67803	8019	Q16099	8020	92.07	Glutamate receptor KA1 subunit	U08257 Rattus norvegicus Sprague-Dawley glutamate receptor KA1 subunit mRNA, complete cds /cds=(76,2946) /gb=U08257 /gi=475545 /ug=Rn.10049 /len=3312	Integral membrane protein. "Glutamate receptor, ionotropic kainate 4 precursor (Glutamate receptorKA-1) (KA1)."
U08290	8021	Q62649	8022	AB002392	8023	Q16517	8024	92.52	neuronatin alpha.	U08290 Rattus norvegicus neuronatin alpha mRNA, complete cds /cds=(40,285) /gb=U08290 /gi=516541 /ug=Rn.5785 /len=1178	Neuronatin.
U08976	8025	Q62651	8026	U16660	8027	Q13011	8028	85.42	Peroxisomal enoyl hydratase-like protein	U08976 Rattus norvegicus Wistar peroxisomal enoyl hydratase-like protein (PXE1) mRNA, complete cds /cds=(10,993) /gb=U08976 /gi=478983 /ug=Rn.6148 /len=1097	MITOCHON DRIAL AND PEROXISOM AL.
U09211	8029	AAA204 98	8030	U09210	8031	NP_003 046	8032	85.9	Vesicular acetylcholine transporter mRNA	U09211 Rattus norvegicus vesicular acetylcholine transporter mRNA, complete cds /cds=(858,2450) /gb=U09211 /gi=507745 /ug=Rn.9987 /len=2858	"Delta3,5- delta2,4-dienoyl- CoA isomerase, mitochondrial precursor(EC 5.3.3.-)."

Table 2.

U09228	8033	Q62655	8034	AK026674	8035	AAA603	8036	92.83	E-box binding factor mRNA	U09228 Rattus norvegicus New England partial cds /cds=(0..1286) /gb=U09228 /gi=517199 /ug=Rn.10450 /len=1481	Nuclear .	Transcription factor 4 (immunoglobulin factor 2) (ITF-2)(RITF-2) (SL3-3 enhancer factor 2) (SEF-2) (Fragment).
U09357	8037	Q62656	8038	M93426	8039	P23471	8040	90.23	receptor-type protein tyrosine phosphatase zeta/beta.	U09357 Rattus norvegicus receptor-type protein tyrosine phosphatase zeta/beta mRNA, complete cds /cds=(105..7055) /gb=U09357 /gi=4877780 /ug=Rn.10088 /len=7851	Type I membrane protein.	Protein-tyrosine phosphatase zeta precursor (EC 3.1.3.48) (RPTP-zeta) (Phosphacan) (3F8 chondroitin sulfate proteoglycan) (3H1 keratansulfate proteoglycan).
U09540	8041	Q64678	8042	U03688	8043	Q16678	8044	84.64	Cytochrome P450 1b1	U09540 RNA09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
U09540	8045	Q64678	8046	U03688	8047	Q16678	8048	84.64	Cytochrome P450	U09540 RNA09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
U09540	8049	Q64678	8050	U03688	8051	Q16678	8052	84.64	Cytochrome P450 1b1	U09540 RNA09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
U09540	8053	Q64678	8054	U03688	8055	Q16678	8056	84.64	Cytochrome P450	U09540 RNA09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).

Table 2.

U09551	8057	AAA532 40	8058	BC022329	8059	XP_027 193	8060	92.07	HMG-box containing protein 1		U09551 Rattus norvegicus HMG-box containing protein 1 (HBP1) mRNA, complete cds /cds=(41,1582) /gb=U09551 /gi=576448 /ug=Rn.11101 /len=2642
U09551	8061	AAA532 40	8062	BC022329	8063	XP_027 193	8064	92.07	HMG-box containing protein 1		U09551 Rattus norvegicus HMG-box containing protein 1 (HBP1) mRNA, complete cds /cds=(41,1582) /gb=U09551 /gi=576448 /ug=Rn.11101 /len=2642
U09793	8065	P46203	8066	NM_0049 85	8067	P01118	8068	84	p21		U09793 Rattus norvegicus p21 (c-Ki-ras) mRNA, complete cds /cds=(0,566) /gb=U09793 /gi=495533 /ug=Rn.10007 /len=661
U10354	8069	P48442	8070	U20760	8071	P41180	8072	89.83	Calcium- sensing receptor (hypocalciuric hypercalcemia 1, severe neonatal hyperparathy- roidism)		U10354 Rattus norvegicus kidney extracellular calcium-sensing receptor mRNA, complete cds /cds=(573,3812) /gb=U10354 /gi=607815 /ug=Rn.10019 /len=4113
U10354	8073	P48442	8074	U20760	8075	P41180	8076	89.83	Calcium- sensing receptor (hypocalciuric hypercalcemia 1, severe neonatal hyperparathy- roidism)		U10354 Rattus norvegicus kidney extracellular calcium-sensing receptor mRNA, complete cds /cds=(573,3812) /gb=U10354 /gi=607815 /ug=Rn.10019 /len=4113
U10357	8077	Q64536	8078	NM_0026 11	8079	Q15119	8080	91.98	pyruvate dehydrogenas- e kinase 2 subunit p45 (PDK2)		U10357 Rattus norvegicus pyruvate dehydrogenase kinase 2 subunit p45 (PDK2) mRNA, complete cds /cds=(98,1321) /gb=U10357 /gi=694002 /ug=Rn.11363 /len=2207

Table 2.

U10357	8081	Q64536	8082	NM_0026 11	8083	Q15119	8084	91.98	Pyruvate dehydrogenase kinase 2 subunit p45 (PDK2)	U10357 Rattus norvegicus pyruvate dehydrogenase kinase 2 subunit p45 (PDK2) mRNA, complete cds /cds=(98,1321) /gb=U10357 /gi=694002 /ug=Rn.11363 /len=2207	Mitochondrial "Pyruvate dehydrogenase [lipoamide] kinase isozyme 2, mitochondrial precursor (EC 2.7.1.99) (Pyruvate dehydrogenase kinase isozyme 2)(PDK P45)."
U10995	8085	AAA834 37	8086	BG701915	8087	NP_005 645	8088	99.37	orphan receptor COUP-TFI	U10995 Rattus norvegicus Wistar orphan receptor COUP-TFI mRNA, complete cds /cds=(474,1733) /gb=U10995 /gi=506761 /ug=Rn.11251 /len=2514	
U10995	8089	AAA834 37	8090	BG701915	8091	NP_005 645	8092	99.37	orphan receptor COUP-TFI	U10995 Rattus norvegicus Wistar orphan receptor COUP-TFI mRNA, complete cds /cds=(474,1733) /gb=U10995 /gi=506761 /ug=Rn.11251 /len=2514	
U11071	8093	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.				Polyadenylate- binding protein related protein mRNA, 3' end	U11071 RNPABPR2 Rattus norvegicus Sprague-Dawley polyadenylate-binding protein-related protein mRNA, 3' end	
U11419	8094	Q00960	8095	U11287	8096	Q13224	8097	91.16	glutamate receptor	U11419 Rattus norvegicus glutamate receptor subunit mRNA, complete cds /cds=(350,4798) /gb=U11419 /gi=558081 /ug=Rn.9711 /len=5259	Integral membrane protein.
U11681	8098	P42346	8099	AK024393	8100	CAB447 36	8101	94.17	Rapamycin and FKBP12 target-1 protein (RAFT1)	U11681 Rattus norvegicus rapamycin and FKBP12 target-1 protein (RAFT1) mRNA, complete cds /cds=(63,7712) /gb=U11681 /gi=511228 /ug=Rn.11008 /len=8554	FKBP- rapamycin associated protein (FRAP) (Rapamycin target protein).

Table 2.

U11685	8102	Q62685	8103	BC008819	8104	Q13133	8105	92.24	Nuclear receptor subfamily 1, group H, member 3		U11685 Rattus norvegicus orphan receptor RLD-1 (rld-1) mRNA, complete cds /cds=(24,1361) /gb=U11685 /gi=555751 /ug=Rn.11209 /len=1723	Nuclear .	Oxysterols receptor LXR-alpha (Liver X receptor alpha) (Nuclear orphan receptor LXR-alpha) (RLD-1).
U12568	8106	P37996	8107	BC008841	8108	P36405	8109	95.54	ADP-ribosylation factor-like protein 3		U12568 Rattus norvegicus ADP-ribosylation factor-like protein 3 (rlrd3) mRNA, complete cds /cds=(12,560) /gb=U12568 /gi=560005 /ug=Rn.9538 /len=783		ADP-ribosylation factor-like protein 3 (ARD3).
U13176	8110	P51669	8111	AF317220	8112	P51669	8113	97.42	ubc2e ubiquitin conjugating enzyme (E217kB)		U13176 Rattus norvegicus clone ubc2e ubiquitin conjugating enzyme (E217kB) mRNA, complete cds /cds=(74,517) /gb=U13176 /gi=595667 /ug=Rn.7390 /len=915		Ubiquitin-conjugating enzyme E2-17 kDa 2 (EC 6.3.2.19) (Ubiquitin-protein ligase) (Ubiquitin carrier protein) (E2(17)KB 2).
U13177	8114	P47986	8115	U39318	8116	P47986	8117	97.74	Ubiquitin-conjugating enzyme E2D 3 (homologous to yeast UBC4/5)		U13177 Rattus norvegicus clone ubc4a ubiquitin conjugating enzyme (E217kB) mRNA, complete cds /cds=(203,646) /gb=U13177 /gi=595669 /ug=Rn.6130 /len=901		Ubiquitin-conjugating enzyme E2-17 kDa 3 (EC 6.3.2.19) (Ubiquitin-protein ligase) (Ubiquitin carrier protein) (E2(17)KB 3).
U13895	8118	AAC53	8119	NM_002803	8120	P35998	8121	91	MSS1 protein		U13895 RN13895 Rattus norvegicus MSS1 protein (MSS1) mRNA, partial cds		
U14005	8122	AAB605	8123	M76558	8124	Q01668	8125	85	Calcium channel alpha-1 subunit gene		U14005exon#1 RN14005 Rattus norvegicus calcium channel alpha-1 subunit gene, partial cds		
U14005	8126	AAB605	8127	M76558	8128	Q01668	8129	85	Calcium channel alpha-1 subunit gene		U14005exon#1 RN14005 Rattus norvegicus calcium channel alpha-1 subunit gene, partial cds		

Table 2.

U14398	8130	P50232	8131	X96783	8132	O00445	8133	42	Synaptotagmi n 4		U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2060	Integral membrane protein. Synaptic vesicles.	Synaptotagmin IV (SytIV).
U14398	8134	P50232	8135	X96783	8136	O00445	8137	42	Synaptotagmi n 4		U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2060	Integral membrane protein. Synaptic vesicles.	Synaptotagmin IV (SytIV).
U14398	8138	P50232	8139	X96783	8140	O00445	8141	42	Synaptotagmi n 4		U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2060	Integral membrane protein. Synaptic vesicles.	Synaptotagmin IV (SytIV).
U14398	8142	P50232	8143	X96783	8144	O00445	8145	42	Synaptotagmi n 4		U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2060	Integral membrane protein. Synaptic vesicles.	Synaptotagmin IV (SytIV).
U14746	8146	AAA868 74	8147	L15409	8148	P40337	8149	88.69	VHL protein		U14746 Rattus norvegicus VHL protein (VHL) mRNA, complete cds /cds=(119,676) /gb=U14746 /gi=882107 /ug=Rn.11059 /len=2807		
U15550	8150	AAA507 61	8151	X56160	8152	P24821	8153	70	Tenascin-C		U15550 RNU15550 Rattus norvegicus tenascin-C mRNA, partial cds		
U15734	8154	Q62703	8155	X78669	8156	Q14257	8157	87.78	Taipoxin- associated calcium binding protein 49		U15734 Rattus norvegicus taipoxin-associated calcium binding protein-49 precursor mRNA, complete cds /cds=(229,1185) /gb=U15734 /gi=606967 /ug=Rn.6133 /len=2019	Endoplasmic reticulum lumen.	Reticulocalbin 2 precursor (Calcium-binding protein ERC-55) (Taipoxin-associated calcium-binding protein-49) (TCBP-49).
U16245	8158	P47864	8159	NM_0016 51	8160	NP_001 642	8161	77	Aquaporin-5		U16245 Rattus norvegicus aquaporin-5 (AQP5) mRNA, complete cds /cds=(109,906) /gb=U16245 /gi=664759 /ug=Rn.10066 /len=1426	Integral membrane protein.	Aquaporin 5.
U16655	8162	AAC52 346	8163	AK023083	8164	NP_116 115	8165	85.45	Phospholipase C delta-4 mRNA		U16655 Rattus norvegicus phospholipase C delta-4 mRNA, complete cds /cds=(142,2460) /gb=U16655 /gi=571465 /ug=Rn..11356 /len=2696		

Table 2.

U16686	8166	Q82716	8167	NM_0210	8168	NP_066 290	8169	43	defensin RatNP-1 precursor	U16686 Rattus norvegicus defensin RatNP-1 precursor mRNA, complete cds /cds=(76,360) /gb=U16686 /gi=1041810 /ug=Rn.10223 /len=485	Secreted.	Neutrophil antibiotic peptide NP-1 precursor (Neutrophil defensin 1)(RatNP-1).
U17013	8170	AAA531	8171	NM_0026 97	8172	P14859	8173	56	transcription factor Oct1 (Oct1)	U17013 Rattus norvegicus transcription factor Oct1 (Oct1) mRNA, partial cds /cds=(0,1898) /gb=U17013 /gi=575454 /ug=Rn.9992 /len=2157		
U17253	8174	Q62722	8175	AF045452	8176	Q13506	8177	88.85	Transcriptional repressor NAB1	U17253 Rattus norvegicus transcriptional repressor NAB1 mRNA, complete cds /cds=(35,2063) /gb=U17253 /gi=915281 /ug=Rn.10099 /len=2415	Nuclear.	NGFI-A binding protein 1 (EGR-1 binding protein 1).
U17254	8178	P22829	8179	D49728	8180	P22736	8181	91	Immediate early gene transcription factor NGFI-B	U17254 Rattus norvegicus immediate early gene transcription factor NGFI-B mRNA, complete cds /cds=(212,1903) /gb=U17254 /gi=596053 /ug=Rn.10000 /len=2488	Nuclear.	Orphan nuclear receptor HMR (Nerve growth factor induced protein I- B)(NGFI-B) (NUR77).
U17254	8182	P22829	8183	D49728	8184	P22736	8185	91	Immediate early gene transcription factor NGFI-B	U17254 Rattus norvegicus immediate early gene transcription factor NGFI-B mRNA, complete cds /cds=(212,1903) /gb=U17254 /gi=596053 /ug=Rn.10000 /len=2488	Nuclear.	Orphan nuclear receptor HMR (Nerve growth factor induced protein I- B)(NGFI-B) (NUR77).
U17565	8186	Q62724	8187	D84557	8188	Q14566	8189	86.92	Rattus norvegicus intestinal DNA replication protein mRNA, partial cds	AI639082 U17565 Rattus norvegicus intestinal DNA replication protein mRNA, partial cds /cds=(0,1523) /gb=U17565 /gi=3169698 /ug=Rn.10220 /len=1812	Nuclear .	DNA replication licensing factor MCM6 (Intestinal DNA replicationprotein) (Fragment).

Table 2.

U17607	8190	Q62725	8191	AK055329	8192	BAA128	8193	95.41	Rattus norvegicus CCAAT binding transcription factor CBF subunit C	U17607 Rattus norvegicus CCAAT binding transcription factor CBF subunit C mRNA, complete cds /cds=(84,1091) /gb=U17607 /gi=1209479 /ug=Rn.10212 /len=1203	Nuclear.	Nuclear transcription factor Y subunit gamma (NF-Y protein chain C)(Nuclear factor YC) (NF-YC) (CCAAT-binding transcription factorsubunit C) (CBF-C).
U17697	8194	Q64654	8195	BG567904	8196	Q16850	8197	93.38	Cytochrom P450 Lanosterol 14 alpha-demethylase	U17697 RNU17697 Rattus norvegicus lanosterol 14-alpha-demethylase mRNA, complete cds	Microsomal .	Cytochrome P450 51 (EC 1.14.14.-) (CYPL1) (P450L1) (Sterol 14-alpha demethylase) (Lanosterol 14-alpha demethylase) (LDM) (P450-14DM).
U17834	8198	P47853	8199	BC001754	8200	Q16626	8201	100	biglycan	U17834 Rattus norvegicus biglycan mRNA, complete cds /cds=(122,1231) /gb=U17834 /gi=600497 /ug=Rn.783 /len=2432	Extracellular matrix .	Biglycan precursor (Bone/cartilage proteoglycan I) (PG-S1).
U17919	8202	P55009	8203	U95213	8204	P55008	8205	91.67	allograft inflammatory factor-1.	U17919 Rattus norvegicus allograft inflammatory factor-1 mRNA, complete cds /cds=(70,513) /gb=U17919 /gi=972908 /ug=Rn.10561 /len=627		Allograft inflammatory factor-1 (AIF-1) (Ionized calcium-binding adapter molecule 1) (Microglia response factor) (MRF-1).

Table 2.

U18771	8206	P51156	8207	BC007681	8208	Q9ULLW 5	8209	87.43	Rattus norvegicus Rab26 mRNA, complete cds	U18771 Rattus norvegicus Rab26 mRNA, complete cds /cds=(29,601) /gb=U18771 /gi=619733 /ug=Rn.10975 /len=1098	Ras-related protein Rab-26.
U19614	8210	A56391	8211	AK021613	8212	CAB432 82	8213	88.62	Rattus norvegicus lamina- associated polypeptide 1C (LAP1C) mRNA, complete cds	U19614 Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds /cds=(58,1578) /gb=U19614 /gi=769854 /ug=Rn.11373 /len=2310	
U19614	8214	A56391	8215	AK021613	8216	CAB432 82	8217	88.62	Rattus norvegicus lamina- associated polypeptide 1C (LAP1C) mRNA, complete cds	U19614 Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds /cds=(58,1578) /gb=U19614 /gi=769854 /ug=Rn.11373 /len=2310	
U19614	8218	A56391	8219	AK021613	8220	CAB432 82	8221	88.62	Rattus norvegicus lamina- associated polypeptide 1C (LAP1C) mRNA, complete cds	U19614 Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds /cds=(58,1578) /gb=U19614 /gi=769854 /ug=Rn.11373 /len=2310	
U19614	8222	A56391	8223	AK021613	8224	CAB432 82	8225	88.62	Rattus norvegicus lamina- associated polypeptide 1C (LAP1C) mRNA, complete cds	U19614 Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds /cds=(58,1578) /gb=U19614 /gi=769854 /ug=Rn.11373 /len=2310	
U19866	8226	AAA686 95	8227	D87468	8228	NP_056 008	8229	89.09	Growth factor (Arc) mRNA	U19866 Rattus norvegicus growth factor (Arc) mRNA, complete cds /cds=(216,1406) /gb=U19866 /gi=644828 /ug=Rn.10086 /len=3032	

Table 2.

U19893	8230	Q9QXQ_0	8231	XM_02944_3	XP_029 443	98	Alpha actinin 4	Cytoplasmic. Alpha-actinin 4 (Non-muscle alpha-actinin 4) (F-actin cross linkingprotein).
U19893	8232	Q9QXQ_0	8233	XM_02944_3	XP_029 443	98	Alpha actinin 4	Cytoplasmic. Alpha-actinin 4 (Non-muscle alpha-actinin 4) (F-actin cross linkingprotein).
U20195	8234	AAA828_91	8235	XM_00144_2	XP_001 442	91	phosphogluco mutase (Pgm1)	U20195 RNU20195 Rattus norvegicus phosphoglucomutase (Pgm1) mRNA, partial cds
U20796	8236	Q63504	8237	L31785	8238	Q14995	8239	Nuclear . Orphan nuclear receptor Rev-ErbA-beta (Rev-Erb-beta) (EAR4).
U21101	8240	Q01062	8241	U67733	8242	O00408	8243	"cGMP- dependent 3',5'- cyclic phosphodiester ase (EC 3.1.4.17) (CyclicGMP stimulated phosphodiester ase) (GS- PDE) (cGSPDE)."
U21719	8244	NP_062_426	8245	NM_004728	8246	Q9NR30	8247	Membrane- bound . U21101 Rattus norvegicus cyclic GMP stimulated phosphodiesterase (PDE2A2) mRNA, complete cds (37,2823) /gb=U21101 /gi=706929 /ug=Rn.10044 /len=3980

Table 2.

U21721	8248	No Rat Protein Found.	XM_04005	8249	XP_040	8250	Rattus norvegicus clone C101 intestinal epithelium proliferating cell-associated mRNA sequence	U21721mRNA RNU21721 Rattus norvegicus clone C101 intestinal epithelium proliferating cell-associated mRNA sequence
U21721	8251	No Rat Protein Found.	XM_04005	8252	XP_040	8253	Rattus norvegicus clone C101 intestinal epithelium proliferating cell-associated mRNA sequence	U21721mRNA RNU21721 Rattus norvegicus clone C101 intestinal epithelium proliferating cell-associated mRNA sequence
U23146	8254	AAA795	8255	XM_00453	XP_04	45	SSeCKS	U23146cds RNU23146 Rattus norvegicus mitogenic regulation SSeCKS (322) gene, complete cds
U23407	8256	P51673	8257	M68867	8258	P29373	8259	U23407 Rattus norvegicus cellular retinoic acid-binding protein II (CRABP II) mRNA, complete cds /cds=(111,530) /gb=U23407 /gi=727432 /ug=Rn.11333 /len=817
U23769	8260	P52944	8261	BC000915	8262	O00151	8263	U23769 Rattus norvegicus CLP36 (clp36) mRNA, complete cds /cds=(66,1049) /gb=U23769 /gi=1020150 /ug=Rn.11170 /len=1392
U24489	8264	913361	53	M26856	8265	9180964	70	U24489 Rattus norvegicus tenascin-X mRNA, partial cds /cds=(0, 614) /gb=U24489 /gi=841425 /ug=Rn.10225 /len=793

Table 2.

U24652	8266	P50745	8267	NM_0054	8268	Q9UQQ	8269	75	Lnk1		Lymphocyte specific adapter protein Lnk (Signal transduction protein Lnk) (Lymphocyte adapter protein).
											U24652 Rattus norvegicus Lnk1 mRNA, complete cds /cds=(75,953) /gb=U24652 /gi=1109773 /ug=Rn.11228 /len=3285
U25281	8270	AAA877 91	8271	AA972141	8272	AAD154 18	90.77	Rattus norvegicus SH3 domain binding protein (CR16) mRNA, complete cds			U25281 Rattus norvegicus SH3 domain binding protein (CR16) mRNA, complete cds /cds=(191,1546) /gb=U25281 /gi=1185396 /ug=Rn.11272 /len=4359
U25746	8273	A57514	8274	AF106680	8275	BAA345 21	8276	91.92	Rattus norvegicus RNA helicase with arginine- serine-rich domain mRNA, complete cds		U25746 Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U25746	8277	A57514	8278	AF106680	8279	BAA345 21	8280	91.92	Rattus norvegicus RNA helicase with arginine- serine-rich domain mRNA, complete cds		U25746 Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531

Table 2.

U25746	8281	A57514	8282	AF106680	8283	BAA345	8284	91.92	Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U25746	8285	A57514	8286	AF106680	8287	BAA345	8288	91.92	Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U25746	8289	A57514	8290	AF106680	8291	BAA345	8292	91.92	Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U25746	8293	A57514	8294	AF106680	8295	BAA345	8296	91.92	Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U26310	8297	AAA676	8298	NM_0226	8299	NP_072	8300	97	Tensin (Tns) mRNA, partial cds (Tns) mRNA, partial cds
U26356	8301	No Rat Protein Found.	No	No human homolog found.	No	Human Protein Found.	S100A1 gene		U26356mRNA RNISHUNA1 Rattus norvegicus S100A1 gene, exon 1

Table 2.

U27186	8302	AAB605_12	8303	NM_003445	8304	Q12901	8305	90.76	Cys2/His2 zinc finger protein (rKr2)	U27186 Rattus norvegicus Cys2/His2 zinc finger protein (rKr2) mRNA, complete cds /cds=(320,2554) /gb=U27186 /gi=868159 /ug=Rn.10168 /len=2817		
U27201	8306	P48032	8307	NM_000362	8308	P35625	8309	95	tissue inhibitor of metalloproteinase 3 (TIMP-3)	U27201 Rattus norvegicus tissue inhibitor of metalloproteinase 3 (TIMP-3) mRNA, complete cds /cds=(3,638) /gb=U27201 /gi=971205 /ug=Rn.6050 /len=7044	Secreted. Extracellular matrix.	Metalloproteinase inhibitor 3 precursor (TIMP-3) (Tissue inhibitor of metalloproteinases-3).
U27319	8310	AAC52945	8311	NM_000188	8312	P19367	8313	100	Hexokinase 1	U27319 exon RNU27319 Rattus norvegicus type I hexokinase (HKI) gene, promoter region and partial cds		
U27767	8314	P49799	8315	U27768	8316	P49798	8317	90.41	Regulator of G protein signaling 4	U27767 Rattus norvegicus RGP4 mRNA, complete cds /cds=(63,680) /gb=U27767 /gi=1216370 /ug=Rn.11065 /len=1489	Regulator of G-protein signaling 4 (RGS4) (RGP4).	
U27767	8318	P49799	8319	U27768	8320	P49798	8321	90.41	Regulator of G protein signalling 4	U27767 Rattus norvegicus RGP4 mRNA, complete cds /cds=(63,680) /gb=U27767 /gi=1216370 /ug=Rn.11065 /len=1489	Regulator of G-protein signalling 4 (RGS4) (RGP4).	
U28938	8322	T14328	8323	AF187042	8324	S60613	8325	88.55	Receptor-type protein tyrosine phosphatase D30	U28938 Rattus norvegicus protein tyrosine phosphatase D30 mRNA, complete cds /cds=(62,3712) /gb=U28938 /gi=1144001 /ug=Rn.10163 /len=4871		
U30788	8326	No Rat Protein Found.	BC002613	8327	No Human Protein Found.			81.18	Rattus norvegicus Tclone4 mRNA	U30788 Rattus norvegicus Tclone4 mRNA /cds=UNKNOWN /gb=U30788 /gi=1216374 /ug=Rn.6477 /len=2026		
U30938	8328	P15146	8329	AK056148	8330	XP_030843		93.33	Rattus norvegicus microtubule-associated protein 2 (MAP2) mRNA, 3' UTR	U30938 Rattus norvegicus microtubule-associated protein 2 (MAP2) mRNA, 3' UTR /cds=UNKNOWN /gb=U30938 /gi=987494 /ug=Rn.11396 /len=3738	Microtubule-associated protein 2 (MAP2) [Contains: MAP2C].	
U31203	8331	Q62809	8332	NM_005450	8333	NP_005441	8334	76	Noggin	U31203 Rattus norvegicus noggin (NOGGIN) mRNA, partial cds /cds=(0,434) /gb=U31203 /gi=1117818 /ug=Rn.10154 /len=997	Secreted. Noggin precursor (Fragment).	

Table 2.

U31668	8335	Q62814	8336	Z78409	8337	Q15329	8338	92.64 Rattus norvegicus transcription factor E2F-5 mRNA, partial cds /cds=0,904 /gb=U31668 /gi=939730 /ug=Rn.10286 /len=1496
U31866	8339	918544	AK021725	8340	g339469		88.61	Rattus norvegicus Nclone10 mRNA, partial cds
U31866	8341	918544	AK021725	8342	g339469		88.61	Rattus norvegicus Nclone10 mRNA
U32314	8343	P52873	8344	BC011617	8345	P11498	8346	90.29 Pyruvate carboxylase
U32314	8347	P52873	8348	BC011617	8349	P11498	8350	90.29 Pyruvate carboxylase
U32575	8351	AAA855	8352	AF055006	8353	AAC093	8354	93 Sec6
U32575	8355	AAA855	8356	AF055006	8357	AAC093	8358	93 Sec6
U32575	8359	AAA855	8360	AF055006	8361	AAC093	8362	93 Sec6
U32575	8363	AAA855	8364	AF055006	8365	AAC093	8366	93 Sec6
U32577	8367	AAA834	8368	AK024911	8369	P52272	8370	97.4 Rattus norvegicus M4 protein homolog mRNA, partial cds /cds=(210,644) /gb=U32577 /gi=1101765 /ug=Rn.10156 /len=758

Table 2.

Table 2.

U34932	8407	AAA791	8408	NM_0248	8409	NP_079	8410	76	Fos-related antigen		U34932 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34932 /gi=1016711 /ug=Rn.3228 /len=2202
U34932	8411	AAA791	8412	NM_0248	8413	NP_079	8414	76	Fos-related antigen		U34932 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34932 /gi=1016711 /ug=Rn.3228 /len=2202
U34932	8415	AAA791	8416	NM_0248	8417	NP_079	8418	76	Fos-related antigen		U34932 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34932 /gi=1016711 /ug=Rn.3228 /len=2202
U34963	8419	P53563	8420	Z23115	8421	Q07877	8422	88	Programmed cell death repressor BCL-X-Long mRNA	MITOCHON	Apoptosis regulator Bcl-x.
U35099	8423	Q13329	8424	AK057826	8425	AAC502	8426	93.13	Rattus norvegicus complexin II mRNA, complete cds	DRIAL MEMBRANE AND PERINUCLEAR ENVLOPE	
U35244	8427	AAC52	8428	NM_0229	8429	NP_075	8430	93	r-vps33a mRNA, complete cds	U35099 Rattus norvegicus complexin II mRNA, complete cds /cds=(282,686) /gb=U35099 /gi=1040918 /ug=Rn.10134 /len=900	Complexin 2 (Synaphin 1) (921-L).
U35244	8431	AAC52	8432	NM_0229	8433	NP_075	8434	93	vacuolar protein sorting homolog r-vps33a	U35244 Rat vacuolar protein sorting homolog r-vps33a mRNA, complete cds /cds=(66,1859) /gb=U35244 /gi=1477467 /ug=Rn.1285 /len=3269	
U35245	8435	AAC52	8436	AL357472	8437	AAG346	8438	90.72	vacuolar protein sorting homolog r-vps33a	U35244 Rat vacuolar protein sorting homolog r-vps33a mRNA, complete cds /cds=(66,1859) /gb=U35244 /gi=1477467 /ug=Rn.1285 /len=3269	
U35245	8435	AAC52	8436							U35245 RNU35245 Rat vacuolar protein sorting homolog r-vps33b mRNA, complete cds	

Table 2.

U35245	8439	AAC52	8440	AL357472	8441	AAG346	8442	90.72	Vacuolar protein sorting homolog r-vps33b	AI059963	U35245 Rattus norvegicus protein sorting homolog r-vps33b mRNA, complete cds	
U35775	8443	Q62847	8444	D67031	8445	Q9UEY8	8446	92	Adducin 3, gamma	U35775 Rattus norvegicus gamma-adducin mRNA, complete cds /cds=(133,2148) /gb=U35775 /gi=1041239 /ug=Rn.9416 /len=2246	Gamma adducin (Adducin-like protein 70) (Protein kinase C bindingprotein 35H).	
U35775	8447	Q62847	8448	D67031	8449	Q9UEY8	8450	92	Adducin 3, gamma	U35775 Rattus norvegicus gamma-adducin mRNA, complete cds /cds=(133,2148) /gb=U35775 /gi=1041239 /ug=Rn.9416 /len=2246	Gamma adducin (Adducin-like protein 70) (Protein kinase C bindingprotein 35H).	
U35776	8451	AAC52	8452	NM_018209	8453	NP_060679	8454	75	ADP-ribosylation factor-directed GTPase activating protein	U35776 Rattus norvegicus ADP-ribosylation factor-directed GTPase activating protein mRNA, complete cds /cds=(283,1530) /gb=U35776 /gi=1130493 /ug=Rn.11219 /len=1862		
U35890	8455	Q10473	8456	BG026335	8457	P09896	8458	93.4	Polypeptide GalNAc transferase	U35890 Rattus norvegicus polypeptide GalNAc transferase T1 mRNA, complete cds /cds=(102,1781) /gb=U35890 /gi=1141791 /ug=Rn.10266 /len=1838	Type II membrane protein. Golgi.	
											"Polypeptide N-acetyl galactosaminyltransferase (EC 2.4.1.41) (Protein-UDP acetyl galactosaminyltransferase) (UDP-GalNAc:polypeptide, N-acetyl galactosaminyltransferase) (GalNAc-T1)."	

Table 2.

U36444	8459	JC5110	8460	NM_006201	8461	Q00536	8462	92	PCTAIRE-1 protein kinase mRNA (Alternatively spliced - 1a used for Human)	U36444cds#1 RRU36444 Rattus rattus PCTAIRE-1 protein kinase mRNA, alternatively spliced, complete cds
U36444	8463	JC5110	8464	NM_006201	8465	Q00536	8466	92	PCTAIRE-1 protein kinase mRNA (Alternatively spliced - 1a used for Human)	U36444cds#1 RRU36444 Rattus rattus PCTAIRE-1 protein kinase mRNA, alternatively spliced, complete cds
U36444	8467	JC5110	8468	NM_006201	8469	Q00536	8470	92	PCTAIRE-1 protein kinase mRNA (Alternatively spliced - 1a used for Human)	U36444Poly_ASite#2 RRU36444 Rattus rattus PCTAIRE-1 protein kinase mRNA, alternatively spliced, complete cds
U36482	8471	P52555	8472	X94910	8473	P30040	8474	87.55	endoplasmic reticulum protein ERp29	U36482 Rattus norvegicus endoplasmic reticulum protein ERp29 precursor, mRNA, complete cds /cds=(43,825) /gb=U36482 /gi=2317799 /ug=Rn.11262 /len=1115
U36482	8475	P52555	8476	X94910	8477	P30040	8478	87.55	endoplasmic reticulum protein ERp29 precursor	U36482 Rattus norvegicus endoplasmic reticulum protein ERp29 precursor, mRNA, complete cds /cds=(43,825) /gb=U36482 /gi=2317799 /ug=Rn.11262 /len=1115
U36482	8479	P52555	8480	X94910	8481	P30040	8482	87.55	endoplasmic reticulum protein ERp29	U36482 Rattus norvegicus endoplasmic reticulum protein ERp29 precursor, mRNA, complete cds /cds=(43,825) /gb=U36482 /gi=2317799 /ug=Rn.11262 /len=1115
U36482	8483	P52555	8484	X94910	8485	P30040	8486	87.55	endoplasmic reticulum protein ERp29 precursor	U36482 Rattus norvegicus endoplasmic reticulum protein ERp29 precursor, mRNA, complete cds /cds=(43,825) /gb=U36482 /gi=2317799 /ug=Rn.11262 /len=1115

Table 2.

U36580	8487	Q62849	8488	BC010696	8489	Q16549	8490	87.53	Rattus norvegicus serine proteinase rPC7 precursor (Pcsk7)	U36580 Rattus norvegicus serine proteinase rPC7 precursor (Pcsk7) mRNA, complete cds /cds=(232,2803) /gb=U36580 /gi=1244519 /ug=Rn.10653 /len=3485	TYPE I MEMBRANE PROTEIN. SEEMS TO BE LOCALIZED INTRACELLULARY TO THE TRANS-GOLGI NETWORK. (Subtilisin/kexin-like protease PC7)(Prohormone convertase PC7) (rPC7).
U36771	8491	P97564	8492	XM_03442	8493	XP_03442	8494	90	sn-glycerol 3-phosphate acyltransferase	U36771 tRNA36771 Rattus norvegicus glycerol 3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds	"Glycerol-3-phosphate acyltransferase, mitochondrial precursor(EC 2.3.1.15) (GPAT)."
U36772	8495	AAB394	8496	XM_03442	8497	XP_03442	8498	90	sn-glycerol 3-phosphate acyltransferase	U36772 Rattus norvegicus glycerol-3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds /cds=(0,141) /gb=U36772 /gi=1754786 /ug=Rn.10646 /len=1512	
U36895	8499	A57223	8500	AF255342	8501	AAG106	8502	27	Rattus norvegicus putative pheromone receptor VN3 mRNA, complete cds	U36895 Rattus norvegicus putative pheromone receptor VN3 mRNA, complete cds /cds=(180,1115) /gb=U36895 /gi=1055247 /ug=Rn.10141 /len=1305	
U37099	8503	AAC52	8504	NM_002866	8505	P20336	8506	86	GTP-binding protein (rab3c) mRNA, partial cds	U37099 tRNA37099 Rattus norvegicus small GTP-binding protein (rab3c) mRNA, partial cds	

Table 2.

U37138	8507	P15589	8508	M16505	8509	P08842	8510	80	Steroid sulfatase (S1s)	U37138 Rattus norvegicus steroid sulfatase (S1s) mRNA, complete cds /cds=(526,2259)/gb=U37138 /gi=1045641 /ug=Rn6312 /len=2457	MICROSON AL MEMBRANE.	THE SEQUENCE SHOWS SEVERAL MEMBRANE- C (ASC).	Brevican core protein	SECRETED; EXTRACELLULAR MATRIX AND ONE FORM ATTACHED TO THE MEMBRANE BY A GPI-ANCHOR.
U37142	8511	P55068	8512	NM_021948	8513	NP_068767	8514	90	Brevican core protein	U37142 Rattus norvegicus brevican core protein mRNA, complete cds /cds=(59,2710)/gb=U37142 /gi=1143284 /ug=Rn.10315 /len=3077	THE SEQUENCE SHOWS SEVERAL MEMBRANE- C (ASC).	Brevican core protein precursor (Brain enriched hyaluronan bindingprotein) (BEHAB protein).	SECRETED; EXTRACELLULAR MATRIX AND ONE FORM ATTACHED TO THE MEMBRANE BY A GPI-ANCHOR.	